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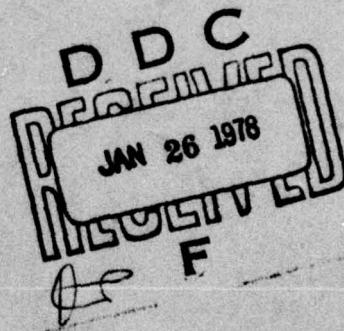


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USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK

Volume 78

C-123K Aircraft, Near and Far-Field Noise



FEBRUARY 1977

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AEROSPACE MEDICAL RESEARCH LABORATORY
AEROSPACE MEDICAL DIVISION
AIR FORCE SYSTEMS COMMAND
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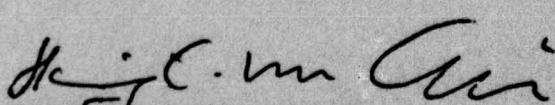
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FOR THE COMMANDER


**HENNING E. VON GIERKE
Director
Biodynamics and Bionics Division
Aerospace Medical Research Laboratory**

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interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 50-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distance from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.

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PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723104, Measurement and Prediction of Noise Environments of Air Force Operations.

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Robert England for his assistance in acquiring the raw data, Mr. Keith Kettler, Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton for assistance in the mechanics of data processing, and Mrs. Norma Peachey and Mr. Mike Patterson for assistance in typing and preparation of the graphics.

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INTRODUCTION

The USAF C-123K is an assault troop/equipment transport aircraft powered by two R2800-99W reciprocating and two J85-17T turbojet engines. The aircraft was manufactured by Fairchild Hiller, the reciprocating engines by Pratt and Whitney a Division of United Aircraft, and the turbojet engines by Lynn, a Division of General Electric.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the C-123K aircraft.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type, noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15°C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. Refer to Volumes 1 and 2 (references 2 and 3) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

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1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.
 2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975.

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the C-123K aircraft during ground runup operations of its reciprocating engines. For these tests the aircraft was located on a concrete runup pad at Hurlburt Field Eglin AFB, with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the surface meteorological conditions and the engine condition. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand-held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all the noise samples on magnetic tape. During analysis of each sample, he determined the one-third octave band root-mean-square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location. Figure 1 shows the two near-field locations where ground crews are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations are difficult in the near-field since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test condition A.

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the C-123K aircraft at the two ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3, which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short sound propagation distances involved.

TABLE 1
MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS

C-123K Aircraft, Ground Runup, Hurlburt Field, Eglin AFB 9 Aug 1971

Ground Crew Location

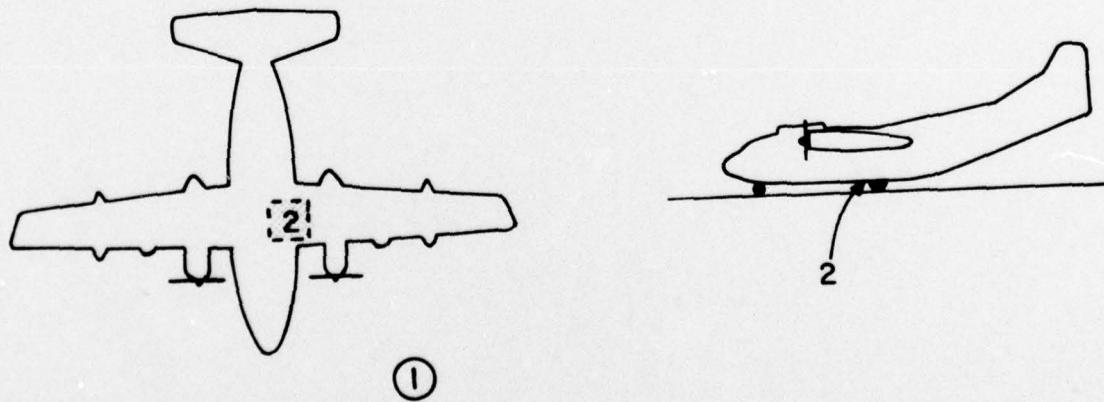
1	Engine Start and Marshal
2	Chock Pull

Aircraft Engine Operation

A	Taxi Power
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Meteorology

Temperature	30.6 C
Bar Pressure	0.763 M Hg
Rel Humidity	68%
Wind — Speed	1.5 M/Sec (3 kt)
— Direction	180 Deg



**Figure 1. Near-Field Measurement Locations on a
Runup Pad at Hurlburt Field, Eglin AFB FL**

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired both near- and far-field data during a 1- 2-hour test period, thus keeping similar meteorological conditions. Figure 2 shows the aircraft on a concrete runup pad and its orientation relative to 19 microphone measurement sites on the semicircle. The center of the 50 meter radius semicircle used in surveying the engine was on the ground directly below the intersection of the aircraft's centerline and the plane passing through the engine's propeller planes.

Table 4 provides cockpit readouts of some engines characteristics (RPM, manifold pressure) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All 19 microphone measurement sites are in the acoustic far-field of their respective source where the sound wave-fronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape recorder system was used to sequentially record the noise at each far-field location. The microphone was hand-held 1.7 meters (5-1/2 feet) above the ground plane and pointed at the source (0° angle of incidence).

RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15°C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the C-123K aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power levels and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

Estimates of noise levels for intermediate power settings (e.g., 1800 RPM) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are, respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented beyond the 160 degree location for the three highest power settings because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 10 to 20 dBA below the level at the 160 degree location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5 at taxi power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

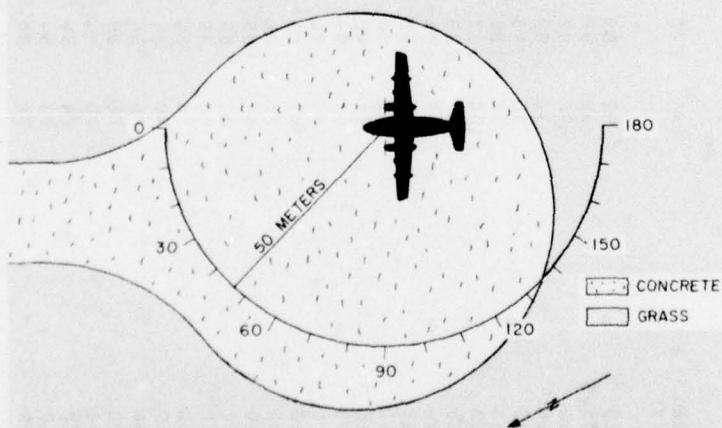


Figure 2. Far-Field Measurement Locations on Runup Pad at Hurlburt Field, Eglin AFB FL

{ TABLE: MEASURED SOUND PRESSURE LEVEL (DB)
 2
 1/3 OCTAVE BAND

NOISE SOURCE/SUBJECT	OPERATION:	LOCATION/CONDITION	
		1/A	2/A
C-123K AIRCRAFT		92	95
GROUND CREW		80	88
NEAR FIELD NOISE LEVELS		92	92
		90	92
		96	99
		97	105
		100	107
		97	109
		95	104
		92	98
		91	98
		91	96
		91	91
		89	90
		87	89
		85	86
		81	85
		81	84
		80	85
		78	84
		77	84
		76	84
		76	85
		74	84
		74	84
		73	84
		71	80
OVERALL		106	113

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)
2
 OC.AVE BAND

NOISE SOURCE/SUBJECT:		OPERATION:		IDENTIFICATION:	
C-123K AIRCRAFT				OMEGA 3-2	
GROUND CREW				TEST 71-019-102	
NEAR FIELD NOISE LEVELS				RUN 01	
					04 DEC 74
					PAGE J1
LOCATION/CONDITION					
FREQ (HZ)		1/A	2/A		
31.5		95	97		
63		100	106		
125		103	112		
250		96	102		
500		94	95		
1000		87	90		
2000		83	89		
4000		80	89		
8000		78	88		
OVERALL		106	113		

TABLE I MEASURES OF HUMAN NOISE EXPOSURE

3

HAZARD/PROTECTION		LOCATION/CONDITION		IDENTIFICATION	
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR				OMEGA	3.2
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR				TEST 71-019-102	
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)				RUN	01
NO PROTECTION					
OASLC	105	113			
OASLA	95	100			
T	71	30			
MINIMUM OPL EAR MUFFS					
OASLA*	83	92			
T	571	120			
AMERICAN OPTICAL 1700 EAR MUFFS					
OASLA*	79	87			
T	960	285			
V-51R EAR PLUGS					
OASLA*	73	78			
T	960	960			
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS					
OASLA*	61	68			
T	960	960			
H-133 GROUND COMMUNICATION UNIT					
OASLA*	72	80			
T	960	960			
COMMUNICATION					
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)					
PSIL	98	91			
ANNOYANCE					
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)					
TONE CORRECTION (C IN DB)					
PNLT	110	118			
C	1	1			

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

TABLE 4
TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS

C-123K Aircraft, Ground Runup, Auxiliary Field #9, Eglin AFB

Aircraft Engine Operation

Idle (no jets)	Both Engines 18 Inches Manifold Pressure 650 RPM
Taxi (no jets)	Both Engines 17 " MAP 1000 RPM
Runup Power Check (no jets)	Both Engines 22 " MAP 2200 % RPM
Maximum Reciprocating Engine Power (no jets)	Both Engines 55 "MAP 2700 RPM
Maximum Power (with jets)	All Engines 55 "MAP 2700 RPM

Meteorology

Temperature	30.6 C
Bar Pressure	0.763 M Hg
Rel Humidity	68 %
Wind — Speed	1.5 M/Sec (3 kt)
— Direction	180 Deg

TABLE I MEASURED SOUND PRESSURE LEVEL (dB)

5 1/3 OCTAVE BAND
DISTANCE = 50 METERS

NOISE SOURCE/SUBJECT		OPERATIONS										METEOROLOGY									
		IDLE POWER					650 RPM					.763 M HG					31 C				
		BOTH ENGINES, NO JETS										REL HUMID = 68 %					BAR PRESS = .763 M HG				
FREQ (Hz)		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
25	AC-123K AIRCRAFT	69<	71<	72<	69<	68<	72<	71<	69<	68<	67<	67<	68<	67<	67<	69<	69<	68<	68<	68<	
31.5	R-2800-99W RECIP ENGINE	69<	68<	69<	70<	71<	68<	69<	68<	68<	67<	67<	68<	67<	67<	67<	67<	67<	67<	67<	
40	J85-Ge-17 AUX JET ENGINE	77	77	75<	75<	74<	75<	75<	75<	75<	75<	75<	75<	75<	75<	75<	75<	75<	75<	75<	
50	FAR FIELD NOISE	78	79	76	80	76	75	76	75	75	74	74	76	77	76	77	76	77	76	77	
63		81	81	80	79	79	78	78	78	79	79	79	79	79	79	79	79	79	79	79	
80		84	85	84	83	83	82	82	81	81	80	79	81	80	79	78	78	78	78	78	
100		81	82	81	82	81	82	81	83	84	84	83	83	80	80	80	80	80	81	81	
125		79	81	80	81	84	82	80	79	82	83	83	85	83	82	82	82	82	82	82	
160		76	78	80	83	80	79	78	78	80	80	80	84	84	84	84	84	84	84	84	
200		71<	71<	71<	74	75	73	71<	72<	71<	74	73	71<	73	75	74	75	74	75	74	
250		70	69<	73	72	71	73	72	72	71	70	73	72	72	72	75	73	75	73	75	
315		66	67	69	70	70	71	71	71	71	72	72	68	69	69	74	75	75	75	75	
400		63	66	68	71	70	70	69	68	68	69	67	69	70	70	74	73	71	71	72	
500		58<	60	64	64	63	63	63	63	63	62	62	65	69	66	66	66	66	66	65	
630		56<	56<	55<	54<	54<	53<	54<	55<	55<	57<	59	58	59	58	59	58	59	58	59	
800		59	59	58	58	57	58	56	55	56	56	56	58	58	58	58	58	58	58	58	
1000		58	57	58	59	59	57	57	54	53	55	55	58	57	56	59	59	57	56	56	
1250		57	56	58	60	58	57	59	57	57	56	55	56	56	56	56	56	57	57	55	
1600		58	58	61	62	61	62	63	61	62	61	59	58	58	58	58	58	58	58	58	
2000		55	56	58	60	61	61	64	63	63	63	62	61	64	64	64	64	64	64	64	
2500		57	56	58	59	58	58	60	59	62	62	64	63	60	62	60	60	60	60	60	
3150		54	54	57	59	58	60	61	63	65	64	65	64	64	64	64	64	64	64	64	
4000		53	53	56	58	57	58	60	61	64	66	62	61	62	61	62	61	62	61	62	
5000		52	52	55	56	56	57	60	60	62	62	64	61	61	60	60	60	60	60	60	
6300		50	51	54	55	54	55	57	60	61	62	60	59	60	59	60	59	57	57	57	
8000		51	51	54	55	54	55	57	58	60	62	62	60	61	60	60	60	58	58	58	
10000		47	48	50	51	50	52	54	54	56	56	56	56	56	57	57	57	55	55	54	
OVERALL		89	90	89	89	90	90	89	88	88	89	89	89	89	89	89	89	89	89	89	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 3
MEASURED SOUND PRESSURE LEVEL (dB)
1/3 OCTAVE BAND
5 DISTANCE = 50 METERS

NOISE SOURCE/SUBJECT:		OPERATION:		ANGLE (DEGREES)												IDENTIFICATION:	
		TAXI POWER	1000 RPM	70	80	90	100	110	120	130	140	150	160	170	180	OMEGA 1.4	TEST 75-002-020
		70 ENGINES	BOTH ENGINES, NO JETS	71	72	73	74	75	76	77	78	79	76	71	70	70	RUN 02
25	74	77	76	73	72	73	71	70	69	68	67	66	68	68	68	68	TEST 75-002-020
31.5	70	69	70	68	67	67	67	67	68	68	71	72	73	73	73	73	RUN 02
40	75	75	76	73	74	74	70	70	70	70	74	75	75	75	75	75	RUN 02
50	80	81	80	76	77	71	73	71	71	71	74	75	75	76	76	76	RUN 02
63	83	83	82	81	83	81	80	78	75	75	80	81	82	82	82	82	RUN 02
80	85	85	84	83	83	82	81	80	80	81	81	81	78	79	82	82	RUN 02
100	90	91	90	89	90	90	90	90	90	91	91	91	88	88	90	88	RUN 02
125	89	91	90	91	93	91	87	87	84	86	83	88	95	92	85	89	RUN 02
160	87	88	88	88	88	87	86	85	83	85	86	86	85	85	86	86	RUN 02
200	83	82	82	81	83	83	81	81	79	79	79	79	80	81	83	83	RUN 02
250	78	78	81	78	76	77	79	77	78	75	75	74	76	76	82	78	RUN 02
315	75	76	76	75	77	73	75	74	74	74	71	72	74	75	80	84	RUN 02
400	72	75	76	77	76	74	73	72	69	71	71	72	74	76	80	81	RUN 02
500	71	73	75	74	74	71	71	68	66	68	71	75	78	79	80	80	RUN 02
630	69	70	68	68	65	65	63	63	60	63	66	68	72	73	75	76	RUN 02
800	70	71	68	68	66	64	64	62	58	60	62	61	64	68	72	73	RUN 02
1000	67	67	67	68	67	64	64	61	60	59	60	61	62	66	68	69	RUN 02
1250	68	67	69	69	67	68	65	64	62	62	64	68	67	66	68	68	RUN 02
1600	66	66	66	65	65	65	64	65	65	62	62	64	69	68	66	67	RUN 02
2000	64	64	64	65	64	63	64	65	66	66	63	63	66	67	65	66	RUN 02
2500	64	64	64	64	63	61	63	63	65	64	64	64	63	66	65	65	RUN 02
3150	61	62	62	63	62	61	62	62	66	65	65	64	63	65	62	61	RUN 02
4000	61	62	62	61	61	62	64	65	67	65	64	64	63	62	61	63	RUN 02
5000	59	60	60	59	59	61	62	64	65	65	62	62	60	60	61	61	RUN 02
6300	57	58	58	58	57	58	61	62	63	62	60	60	60	59	58	59	RUN 02
8000	57	58	58	58	58	59	60	61	61	61	61	61	60	60	59	57	RUN 02
10000	54	55	55	54	55	54	56	57	59	60	58	57	56	57	56	54	RUN 02
OVERALL	95	96	96	95	96	95	96	95	93	93	94	93	95	93	95	93	RUN 02

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE I
MEASURED SOUND PRESSURE LEVEL (DB)
5 1/3 OCTAVE BAND
DISTANCE = 50 METERS

NOISE SOURCE/SUBJECT		OPERATION			METEOROLOGY			IDENTIFICATIONS											
		GROUND POWER CHECK	2200 RPM	BOTH ENGINES, NO JETS	TEMP = 31 C	BAR PRESS = .763 HG	REL HUMID = 68 %	TEST 75-002-020	RUN 03										
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	72<	70<	71<	74<	71<	72<	73<	73<	72<	69<	70<	73<	73<	73<	72<	78			
31.5	76<	74<	76<	76<	76<	76<	77	76<	76<	76<	77	76<	76<	76<	76<	76<	76<	75<	
40	83	84	82	86	85	83	64	84	86	86	86	86	86	86	86	86	83	81	82
50	96	100	95	101	99	97	97	97	100	101	99	97	100	103	99	97	97	97	
63	86	85	83	85	83	82	83	83	83	83	83	83	84	85	83	83	83	79	
80	92	91	90	88	86	85	65	85	84	85	87	87	85	87	88	89	89	84	
100	95	99	100	101	95	96	99	98	94	96	101	100	95	100	97	96	95	95	
125	97	96	98	99	100	105	104	101	97	101	103	106	106	98	95	95	95	95	
160	99	98	95	98	96	95	101	97	94	97	101	99	98	96	93	91	88		
200	98	97	99	99	94	92	99	96	94	93	95	97	98	97	95	90	87		
250	95	93	95	95	93	89	92	90	67	85	90	88	89	92	90	86	84		
315	95	94	98	100	96	92	95	92	89	88	92	89	91	94	93	93	95		
400	93	92	98	102	98	93	96	90	93	88	94	92	96	95	94	95	95	95	
500	92	97	100	98	94	97	92	96	90	94	96	94	96	97	94	93	93	93	
630	88	91	92	91	88	92	87	82	87	82	87	91	91	93	91	91	91	84	
800	89	92	90	91	91	87	90	88	87	87	91	90	93	92	93	92	93	93	
1000	88	88	87	88	87	84	86	85	87	84	89	88	88	89	88	89	88	81	
1250	88	87	88	87	88	85	86	88	85	88	86	88	89	89	88	88	88	88	
1600	85	86	87	87	86	85	86	85	86	86	87	86	86	88	86	85	85	77	
2000	85	85	87	88	87	86	88	89	89	87	86	85	87	86	84	84	84	78	
2500	83	83	85	85	85	84	86	87	87	86	85	84	84	84	83	81	76		
3150	82	82	84	84	83	82	85	85	87	88	85	84	84	82	80	80	78	73	
4000	81	82	85	83	83	83	86	86	86	86	85	86	85	82	81	80	78	73	
5000	79	79	81	81	82	82	84	84	85	85	82	79	80	78	77	75	71		
6300	78	79	80	81	81	81	83	84	84	84	81	78	78	77	76	74	70		
8000	78	78	80	81	81	80	83	83	84	83	81	78	78	77	75	74	69		
10000	76	76	78	78	79	79	81	81	80	81	78	76	75	73	73	72	67		
OVERALL	106	107	110	107	107	109	106	105	106	109	109	109	108	106	104	104	100		

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE I MEASURED SOUND PRESSURE LEVEL (DB)
 5 1/3 OCTAVE BAND
 DISTANCE = 50 METERS

MEASURED SOUND PRESSURE LEVEL (DB)												IDENTIFICATION								
1/3 OCTAVE BAND 5 DISTANCE = 50 METERS												OMEGA 1.4								
AC-123K AIRCRAFT R-280W-99W RECIP ENGINE J85-GE-17 AUX JET ENGINE FAR FIELD NOISE												TEST 75-002-020								
NOISE SOURCE/SUBJECT:	OPERATION:	MAXIMUM RECIP. POWER	2700 RPM	2700 RPM	TEMP	= 31 C	BAR PRESS	= +763 M HG	REL HUMID	= 68 %	PAGE	RUN 04								
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
25	74<	74<	75<	77	79	79	79	79	80	80	81	81	82	82	81	82	80	80	80	91
31.5	78	80	81	81	79	77	73	73	81	81	82	81	81	81	81	81	80	80	80	91
40	83	83	84	84	83	85	68	69	88	89	91	92	93	90	90	90	87	87	87	90
50	97	95	95	91	87	90	95	94	92	97	102	98	95	96	98	98	89	89	88	88
63	105	106	108	103	101	104	107	107	106	111	114	111	111	107	106	106	99	99	97	97
80	98	97	94	93	93	92	91	90	89	90	91	93	97	97	97	96	86	86	86	86
100	98	97	97	97	99	99	98	98	97	96	97	99	101	103	101	101	98	97	97	99
125	105	105	106	107	109	109	109	109	106	104	106	110	113	113	113	109	105	101	96	99
160	109	111	113	112	110	111	112	109	107	109	113	116	117	113	117	113	106	105	97	97
200	102	102	104	101	99	99	99	99	99	103	107	106	106	103	100	98	93	93	87	87
250	104	104	104	104	103	102	101	101	102	104	106	104	104	101	96	97	94	94	85	85
315	105	105	106	105	105	104	104	103	103	103	105	105	106	104	102	101	101	100	92	92
400	103	104	107	108	107	103	101	100	100	101	104	104	104	104	104	103	102	98	90	90
500	99	102	106	105	103	102	102	102	101	101	102	102	103	103	103	103	103	96	99	99
630	94	97	100	99	97	97	98	97	96	98	100	100	100	100	100	100	101	95	95	95
800	96	97	99	98	97	96	97	96	97	99	100	101	103	104	103	103	100	98	98	98
1000	95	95	96	95	94	94	96	95	97	96	99	99	99	99	99	99	98	93	93	97
1250	94	95	97	95	94	94	95	95	95	96	97	97	97	97	97	96	95	90	90	86
1600	93	96	98	98	97	97	97	97	97	97	96	96	96	96	96	94	91	88	84	84
2000	93	95	97	97	96	97	98	98	98	98	97	96	96	95	93	93	92	87	85	85
2500	92	94	96	96	95	96	97	97	97	97	96	95	94	93	93	91	87	83	83	83
3150	90	93	95	94	94	95	96	96	97	96	96	94	92	90	88	85	81	81	81	81
4000	89	92	94	94	94	95	96	96	97	96	96	95	93	91	89	85	82	82	82	82
5000	87	89	91	91	91	92	93	94	95	94	93	92	90	88	86	83	80	80	80	80
6300	86	88	91	90	91	93	93	93	93	93	92	91	90	89	87	84	82	78	78	78
8000	85	87	89	89	89	91	92	92	92	91	91	90	88	86	84	81	78	78	78	78
10000	82	84	86	86	86	87	88	89	88	88	86	85	83	80	78	74	74	74	74	74
OVERALL	114	115	117	116	115	116	116	116	114	114	116	116	116	117	117	117	117	117	117	117

« LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 5
MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 50 METERS

NOISE SOURCE/SUBJECT:		OPERATION:										METEOROLOGY										IDENTIFICATION	
		MAXIMUM TAKEOFF POWER					TEMP = 31 C					BAR PRESS = .763 MM HG					OMEGA 1.4		TEST 75-002-020		RUN 05		
		2700 RPM RECIP. ENGINES					REL HUMID = 60 %										16 APR 75						
		100% RPM JET ENGINES															PAGE 2						
FREQ (HZ)		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180			
25	77	77	77	77	78	78	80	81	82	83	83	84	85	87	88	88	89	89	90	90	90	91	91
31.5	79	79	80	80	81	81	82	82	83	83	83	84	85	87	87	87	88	89	89	90	90	91	91
40	82	84	85	86	87	88	89	89	89	90	90	93	94	94	94	94	94	94	94	94	94	93	92
50	86	90	93	92	91	93	94	93	94	91	90	92	90	92	90	92	90	92	90	92	90	93	93
63	100	103	106	103	102	104	107	106	105	110	114	112	110	109	107	107	103	103	103	103	103	99	99
80	95	94	94	94	94	93	92	91	91	91	93	95	97	99	99	97	99	101	100	98	98	98	98
100	98	98	97	97	98	97	97	97	97	97	97	97	99	102	102	104	105	104	102	102	104	104	104
125	101	102	105	106	107	107	106	104	103	105	109	111	111	113	113	111	113	110	105	105	103	103	103
160	107	109	113	113	112	112	112	112	109	107	110	114	116	116	117	117	114	114	110	107	107	104	104
200	101	101	102	100	99	100	102	100	99	104	107	106	106	106	107	107	106	105	105	105	98	98	98
250	97	100	103	102	101	100	100	100	100	103	105	105	103	105	103	106	107	107	104	104	104	104	104
315	100	102	104	103	102	102	102	103	102	103	104	105	105	105	105	106	106	107	106	107	106	106	106
400	98	102	106	105	104	103	102	101	101	102	102	102	101	102	101	103	107	108	108	108	108	105	102
500	98	102	105	104	102	102	101	101	101	102	101	101	101	101	104	107	108	106	105	105	105	101	101
630	93	93	99	98	97	98	99	98	98	98	98	98	98	98	98	98	100	102	103	104	103	101	101
800	98	99	99	99	99	99	98	98	98	99	99	99	99	99	99	99	102	105	104	104	104	101	99
1000	95	95	95	96	96	96	96	96	96	97	97	97	97	97	97	98	98	98	97	96	96	96	96
1250	96	96	97	97	98	96	95	95	96	97	97	97	97	97	97	98	98	98	98	98	98	95	95
1600	97	98	99	99	99	98	97	98	99	99	99	99	99	99	99	99	100	103	101	99	97	95	95
2000	97	98	99	99	99	99	100	99	99	99	99	99	99	99	99	100	102	103	101	99	97	94	94
2500	95	96	97	96	98	97	97	97	97	98	98	98	98	98	98	98	99	100	99	99	98	96	93
3150	95	95	96	97	98	97	96	96	96	97	97	97	97	97	97	98	98	98	97	96	96	93	91
4000	94	94	95	96	97	96	95	96	96	97	98	98	98	98	98	98	98	98	98	98	98	92	90
5000	93	94	94	95	95	94	94	94	94	95	96	96	96	96	96	96	95	93	92	90	88	88	86
6300	92	92	93	94	95	94	93	94	93	94	95	95	95	95	95	94	94	92	90	88	86	85	84
8000	94	94	94	94	95	95	94	94	94	94	94	94	94	94	94	94	92	90	88	86	85	83	81
10000	89	89	89	90	91	91	100	89	90	91	91	91	91	91	91	91	92	91	91	91	91	91	91
OVERALL	112	114	117	116	116	116	115	114	114	116	116	116	116	116	116	116	119	120	120	119	118	115	112

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT: AC-123K AIRCRAFT
R-2000-93W RECIP ENGINE
J85 GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION: IDLE POWER
650 RPM
BOTH ENGINES, NO JETS

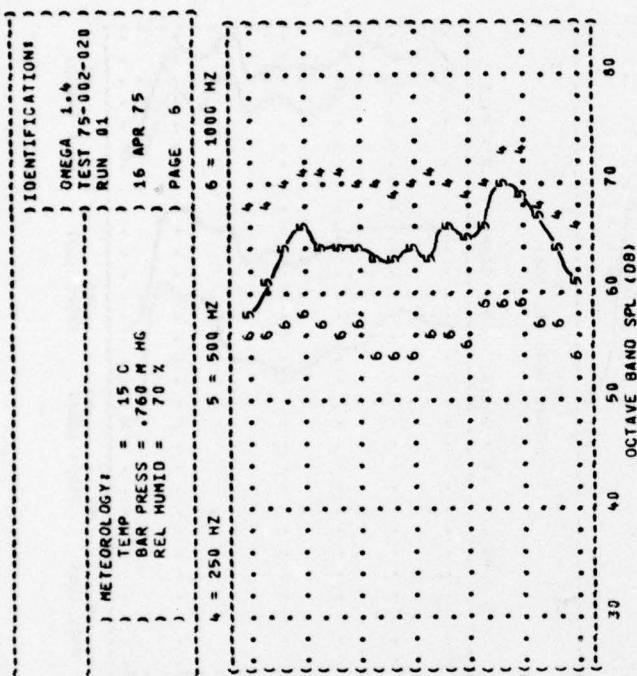
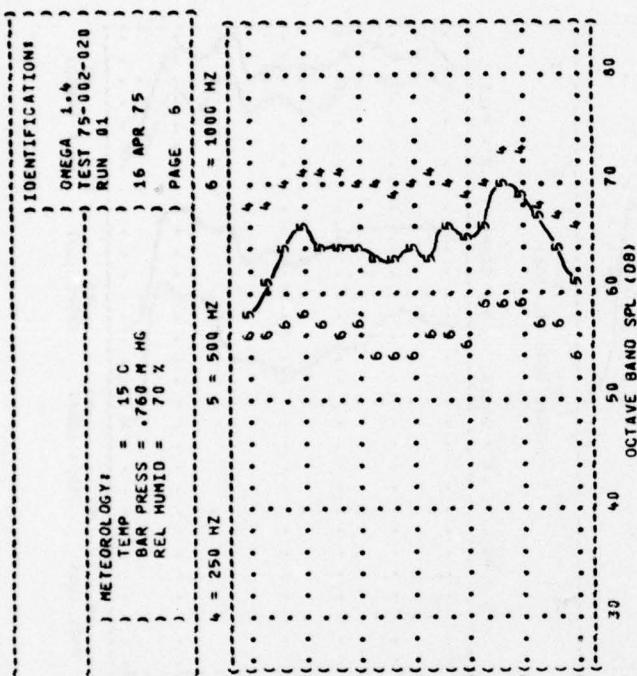
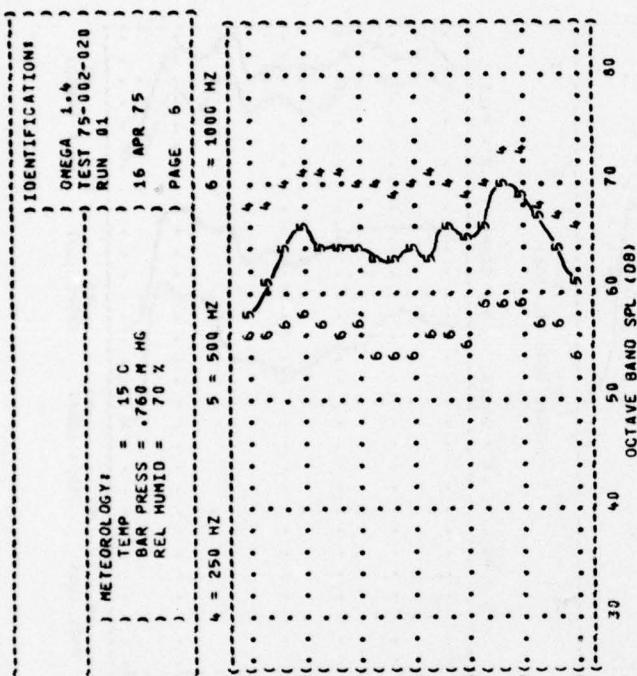
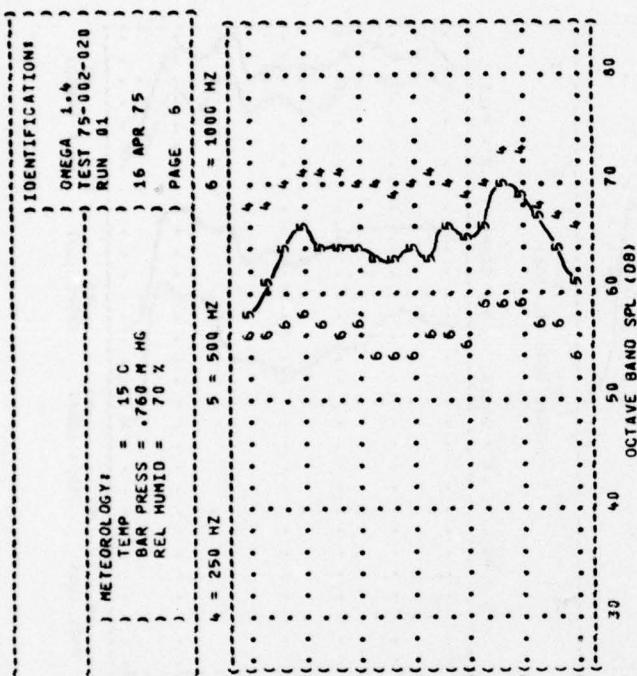
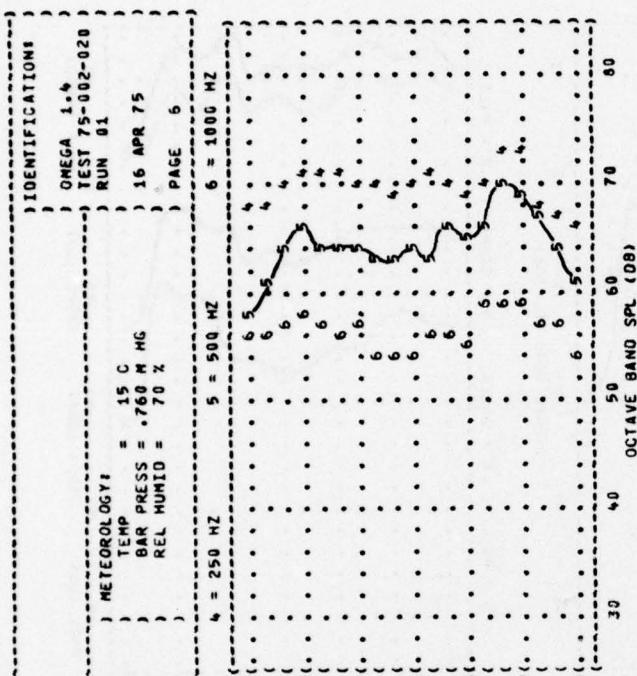
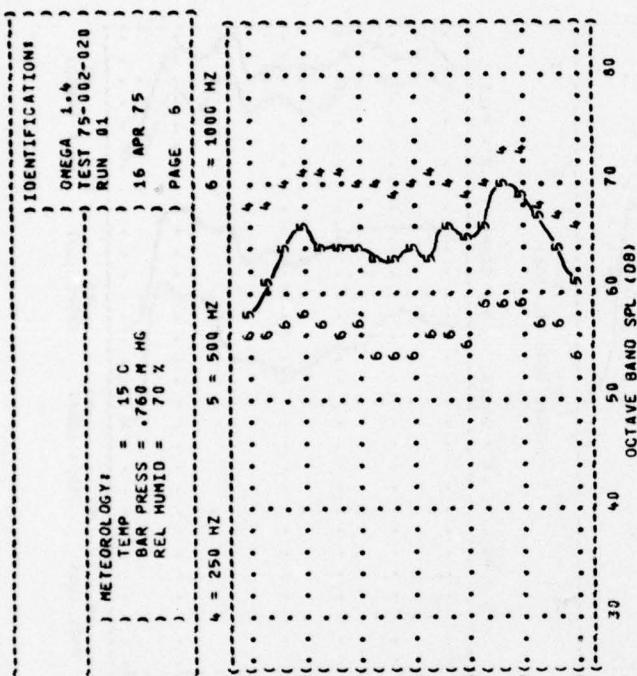
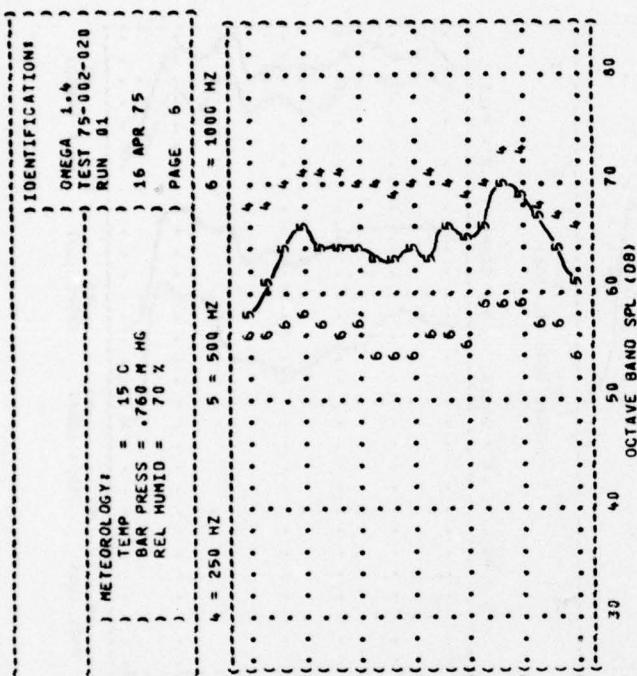
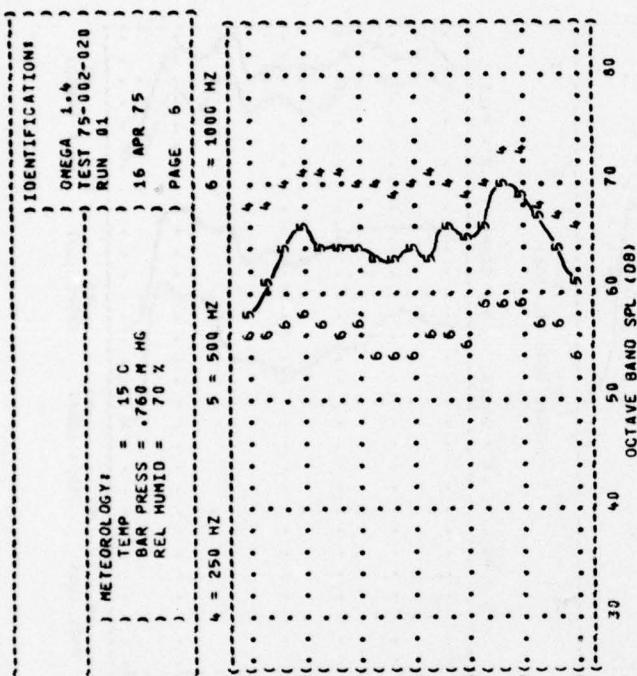
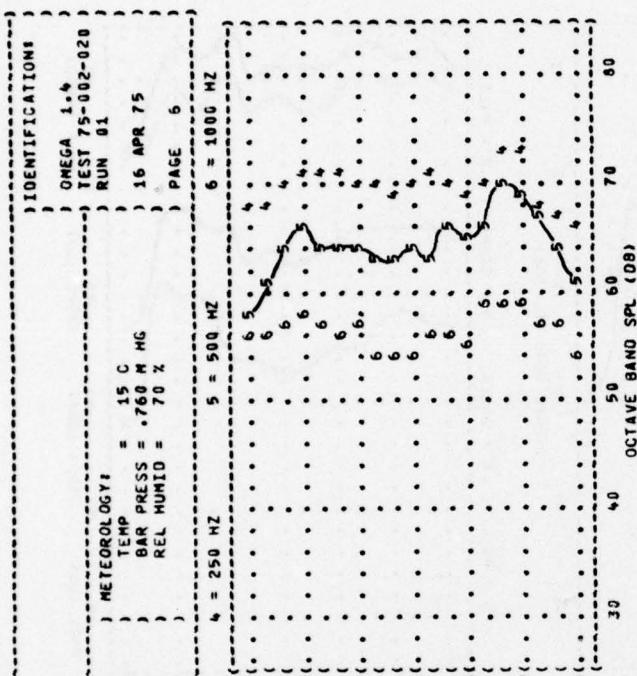
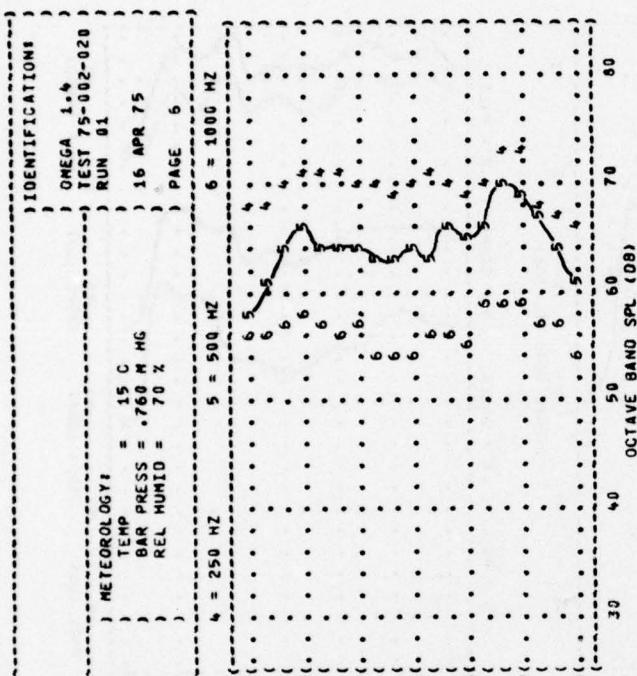
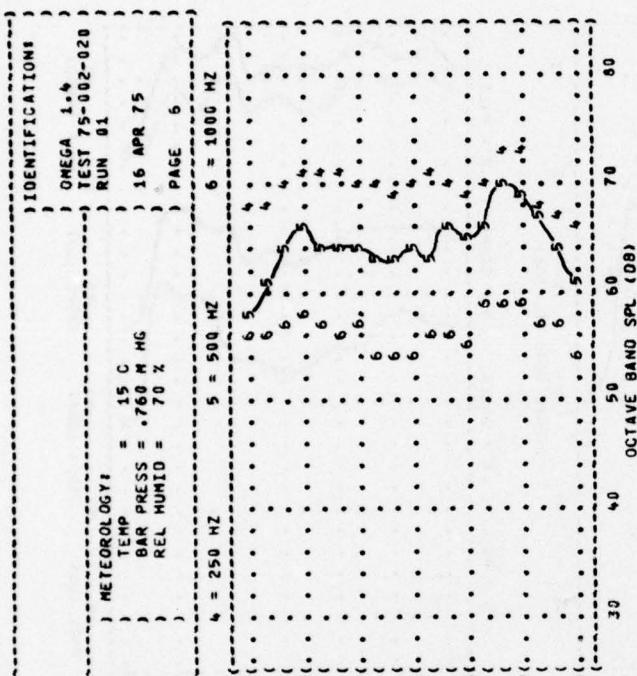
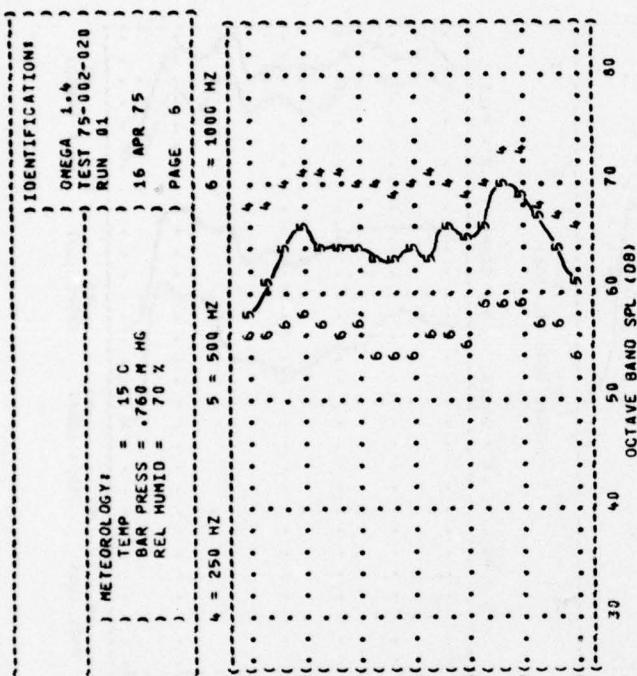
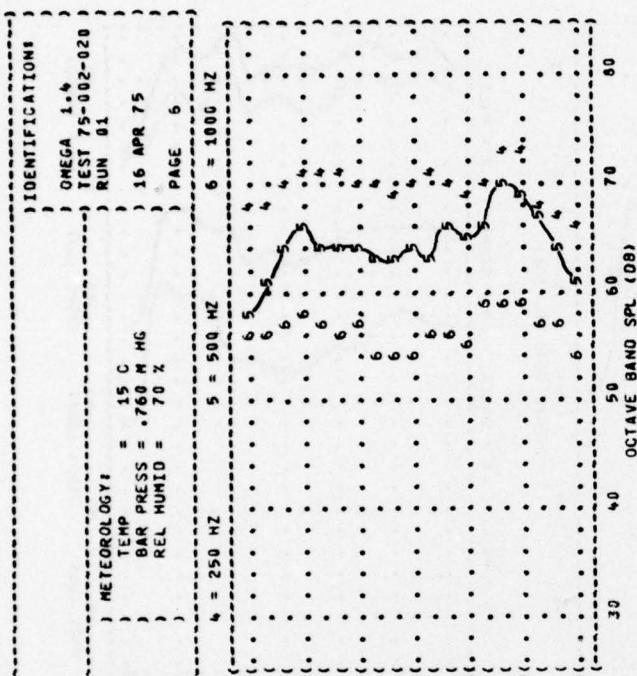
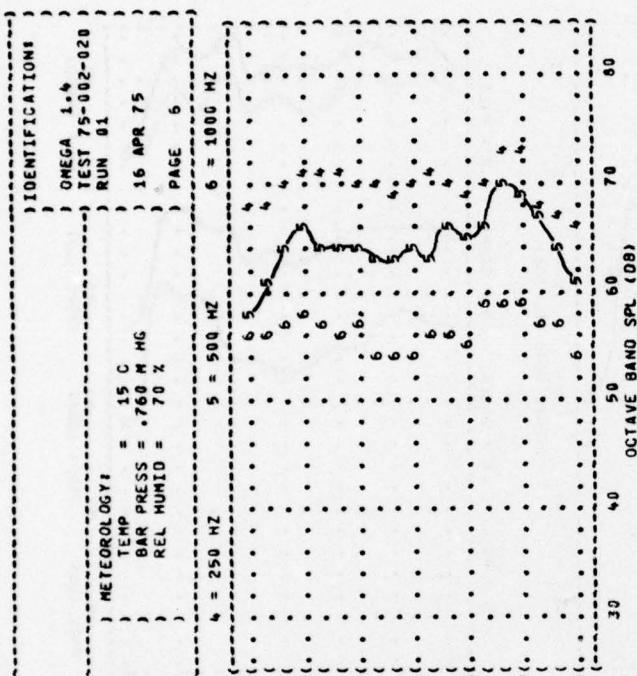
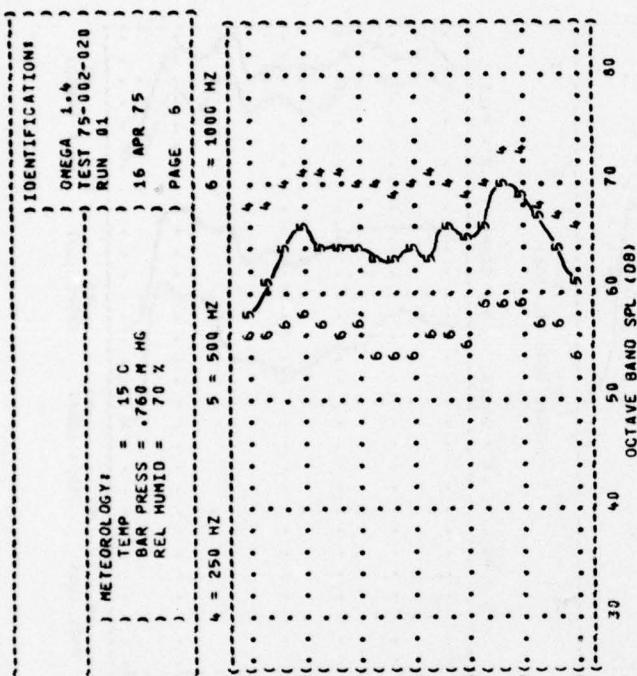
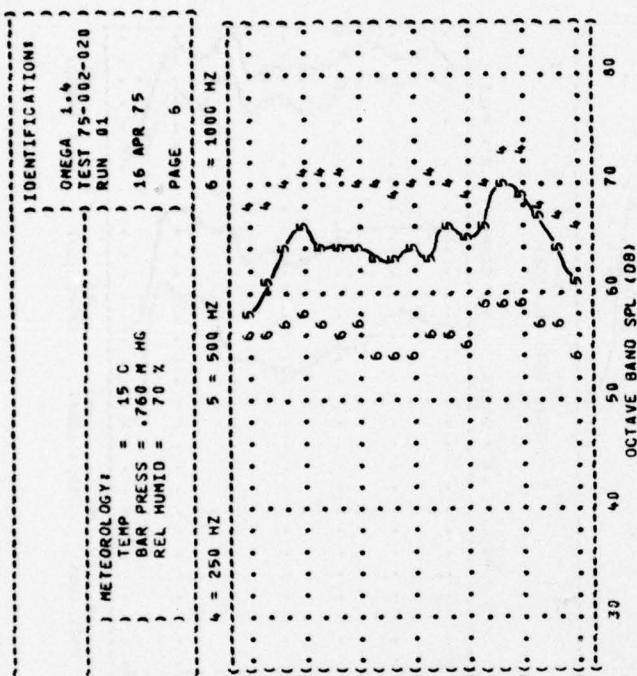
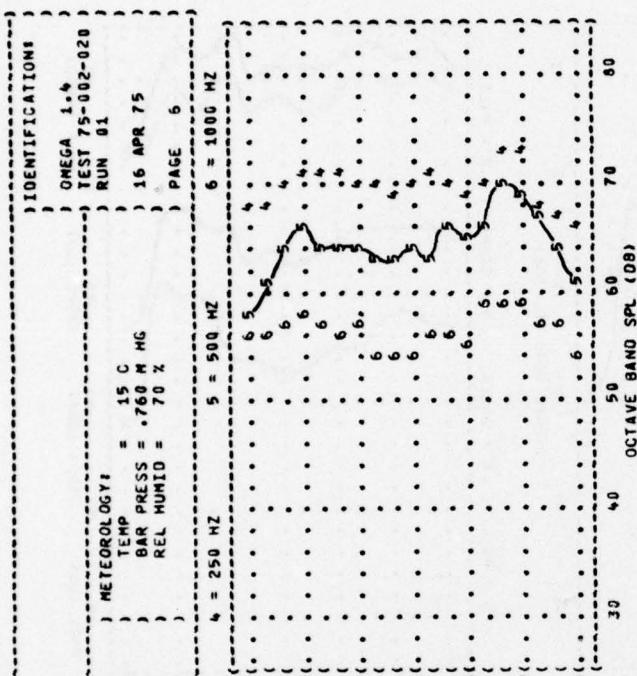
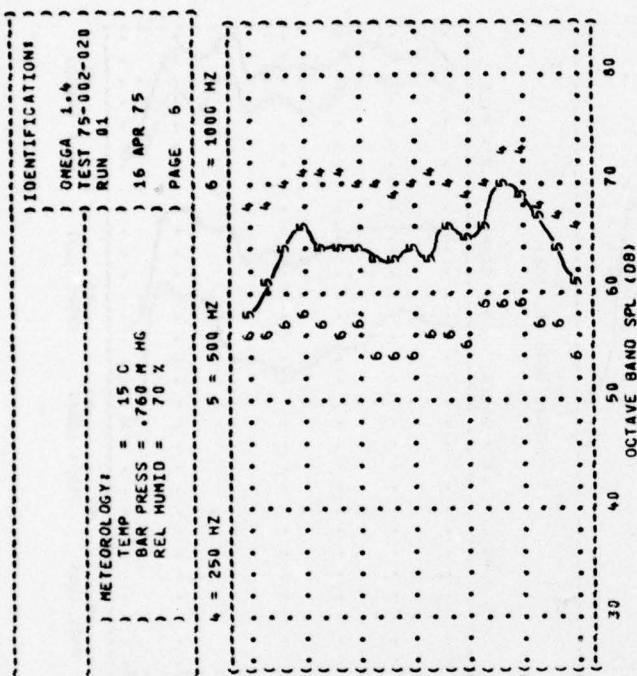
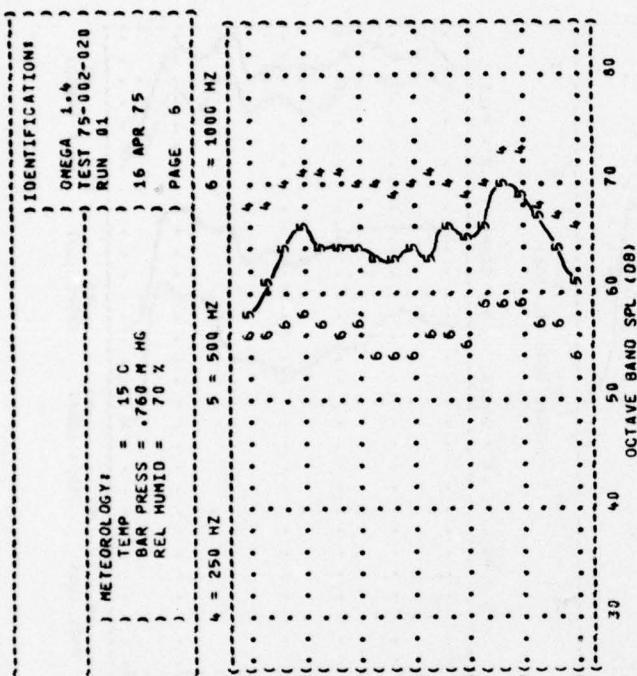
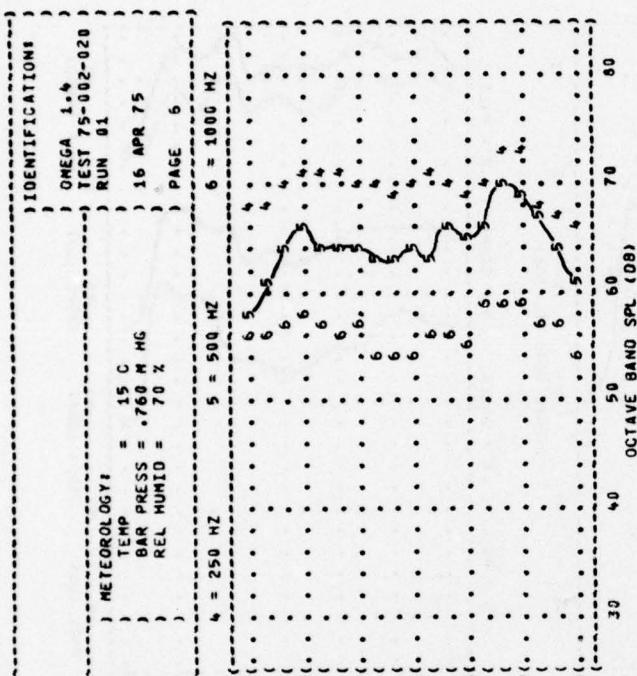
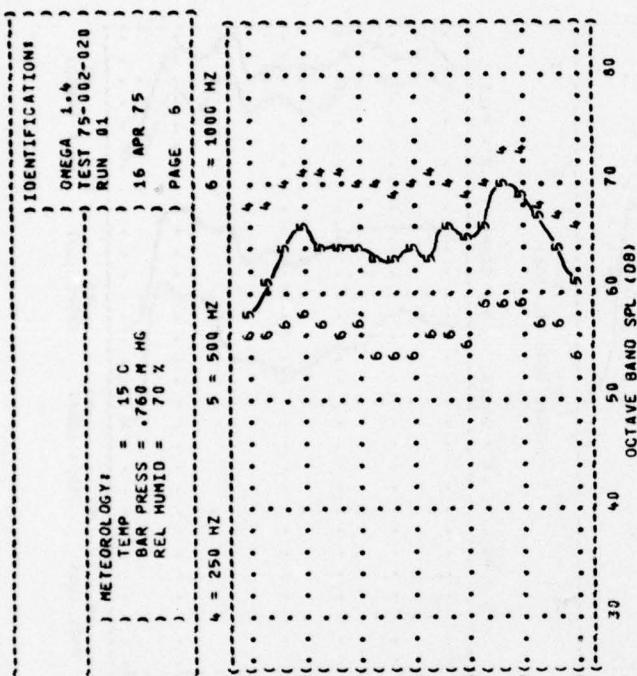
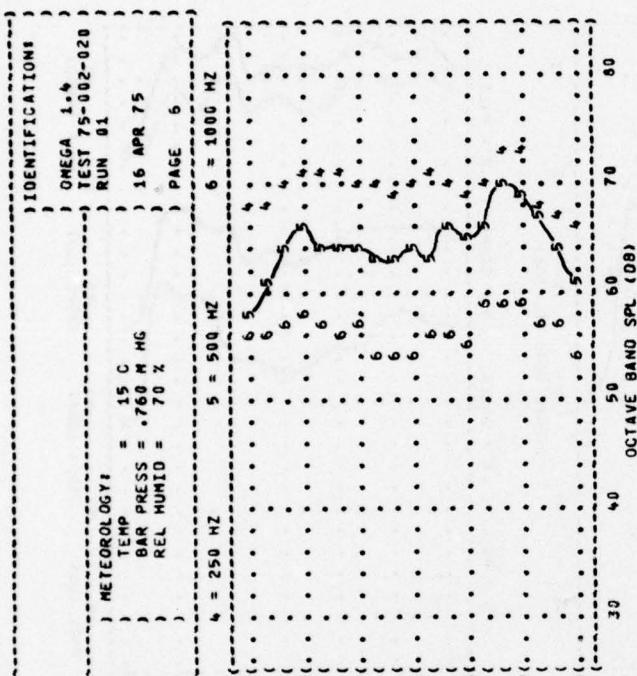
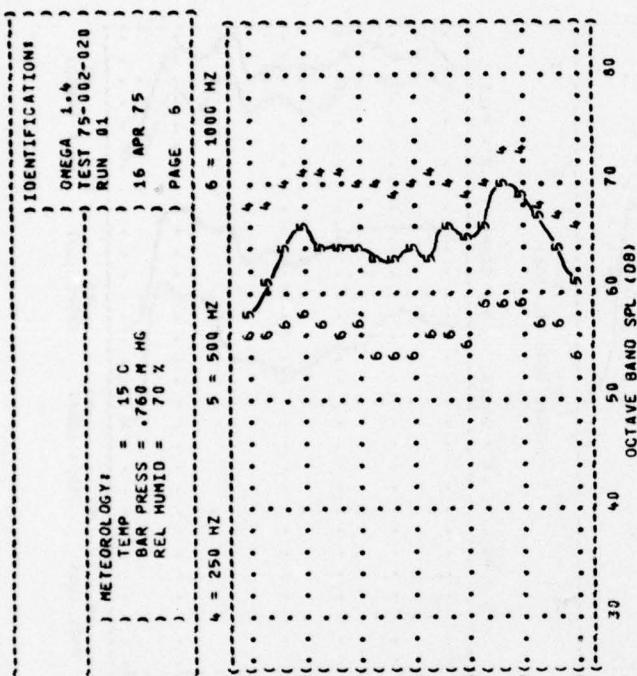
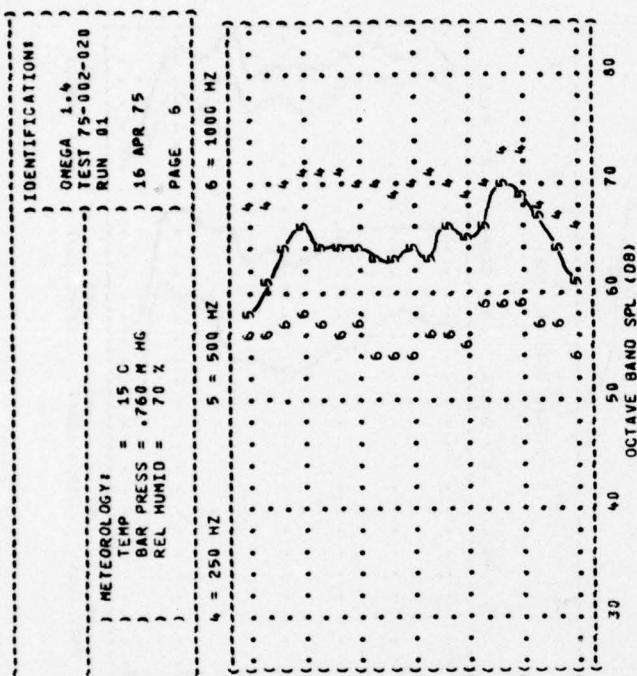
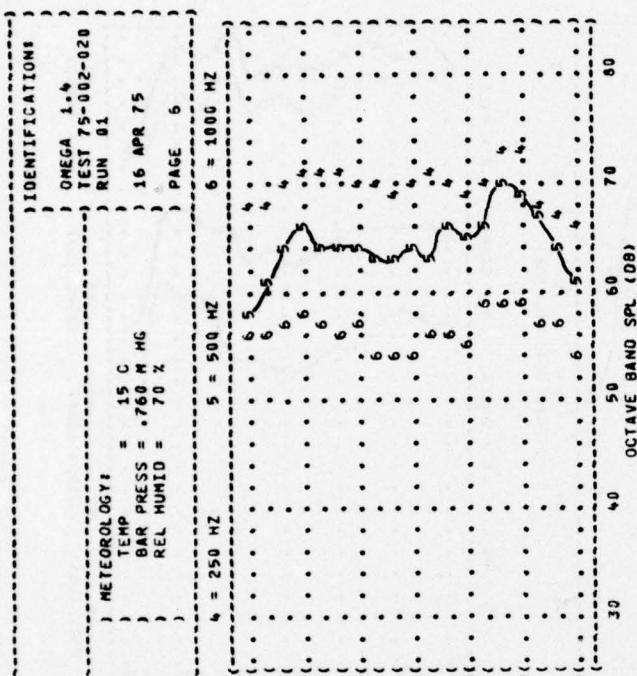
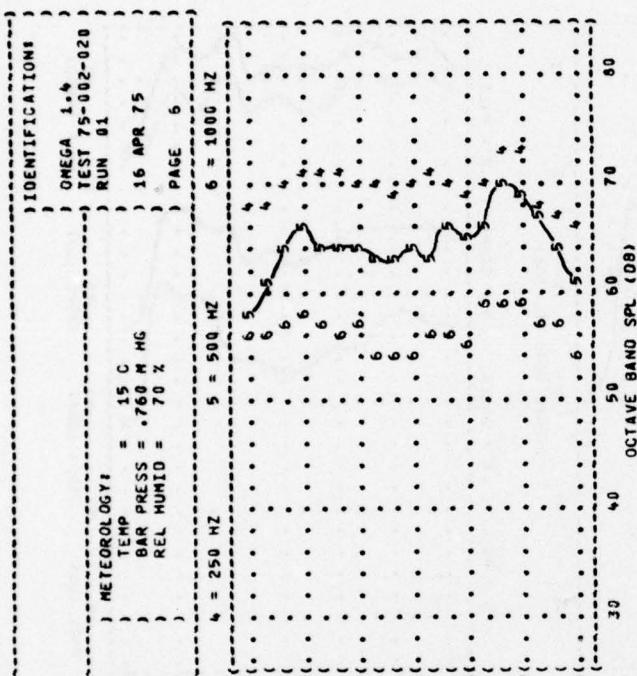
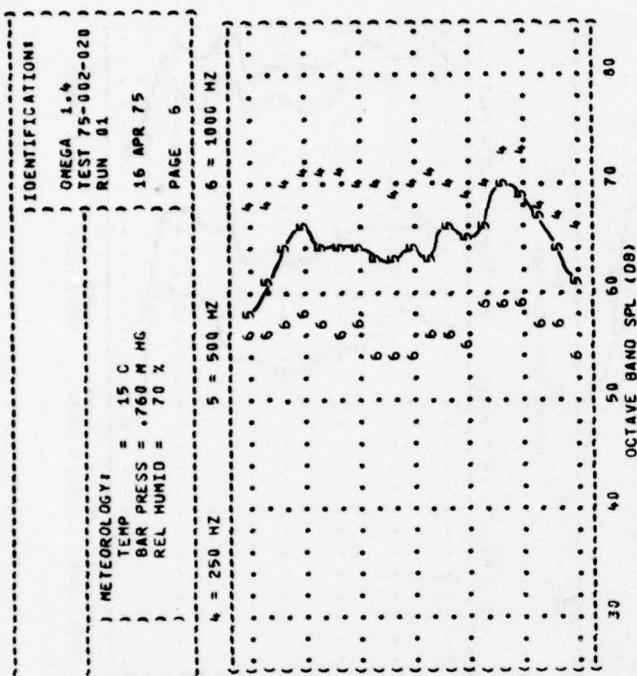
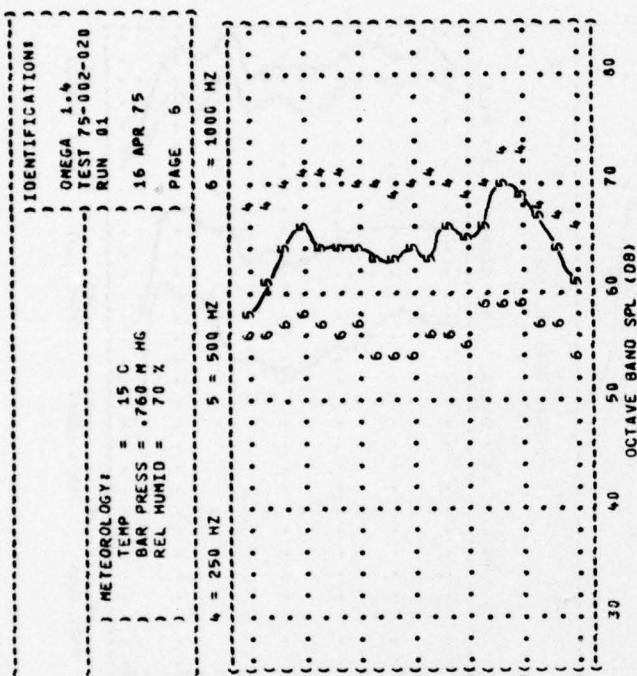
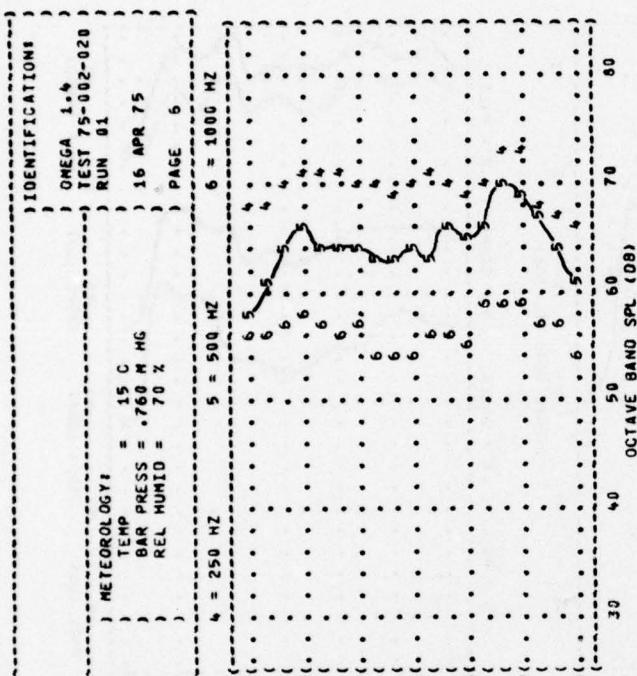
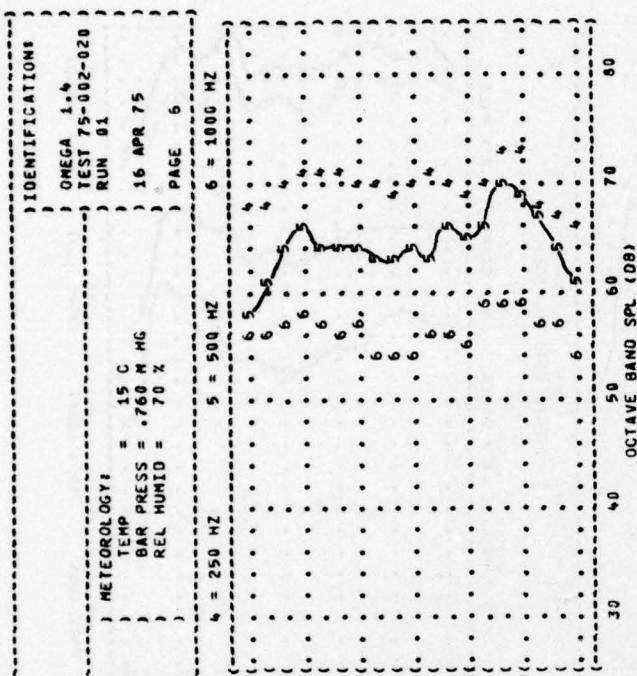
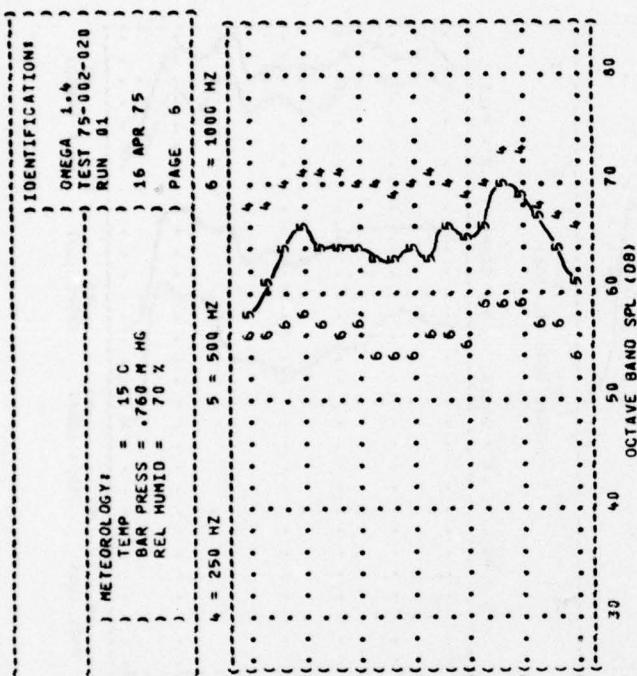
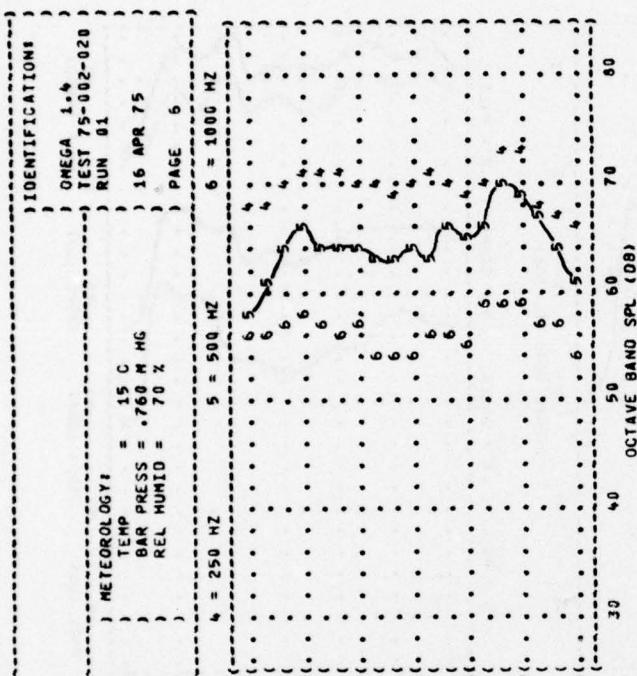
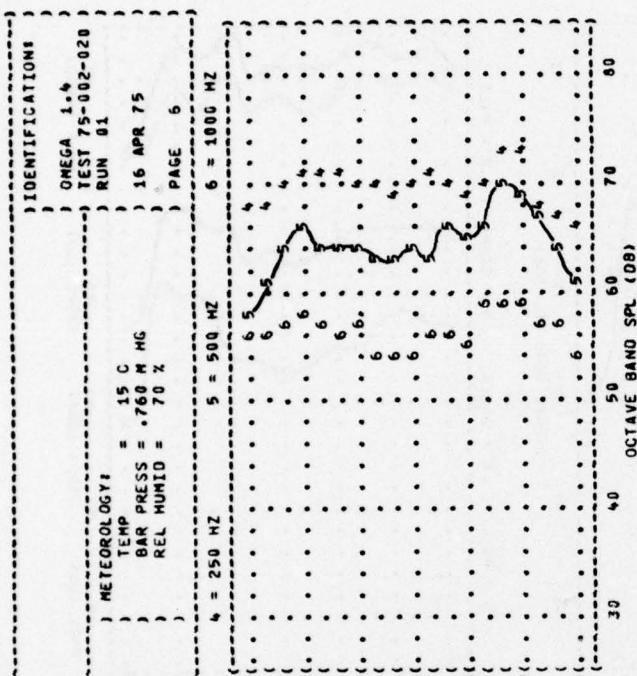
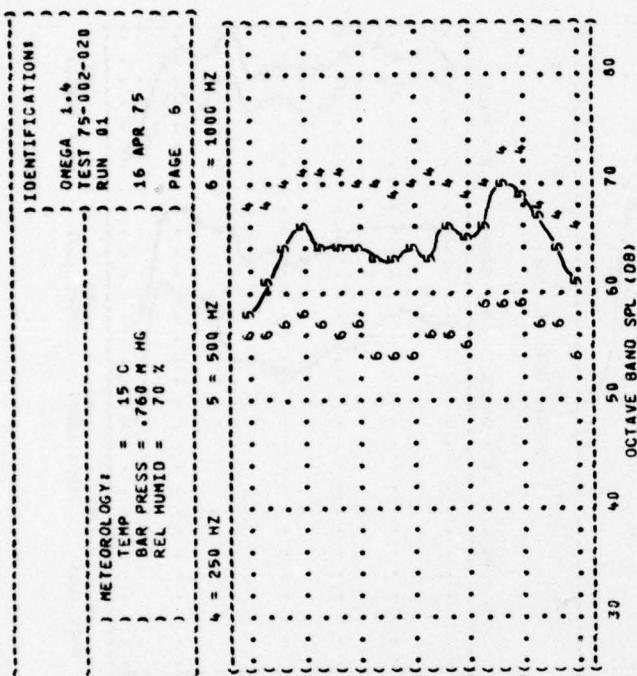
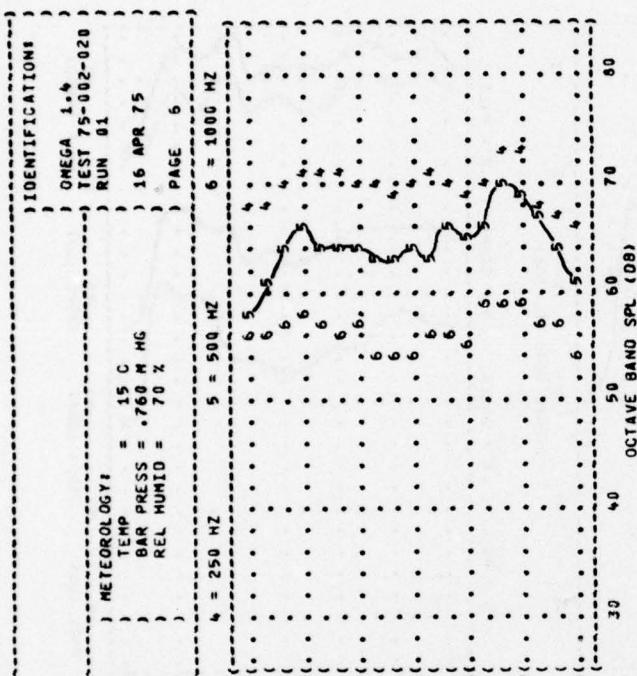
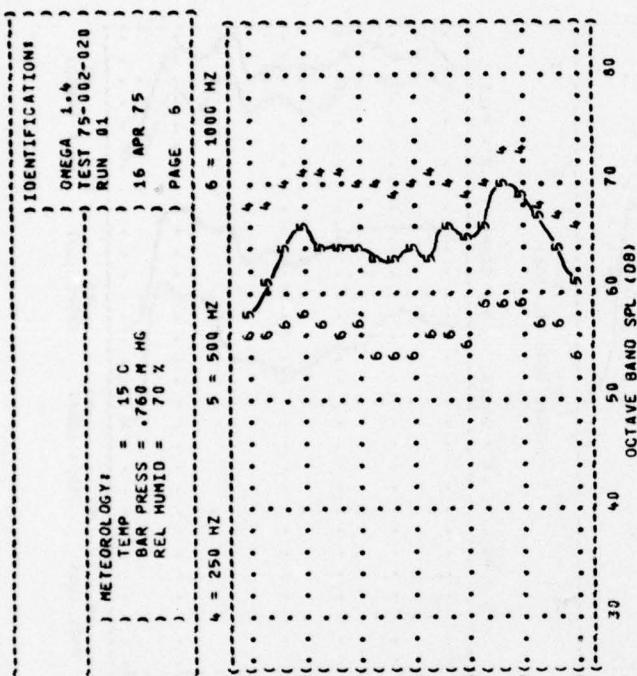
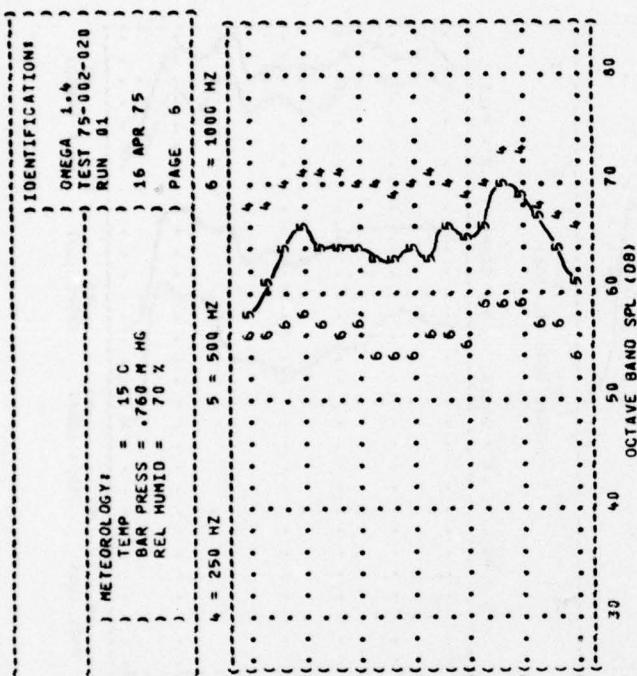
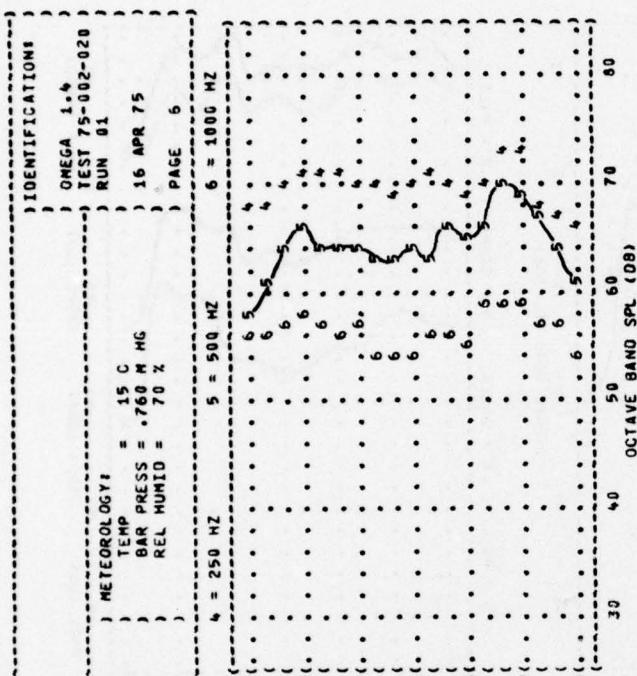
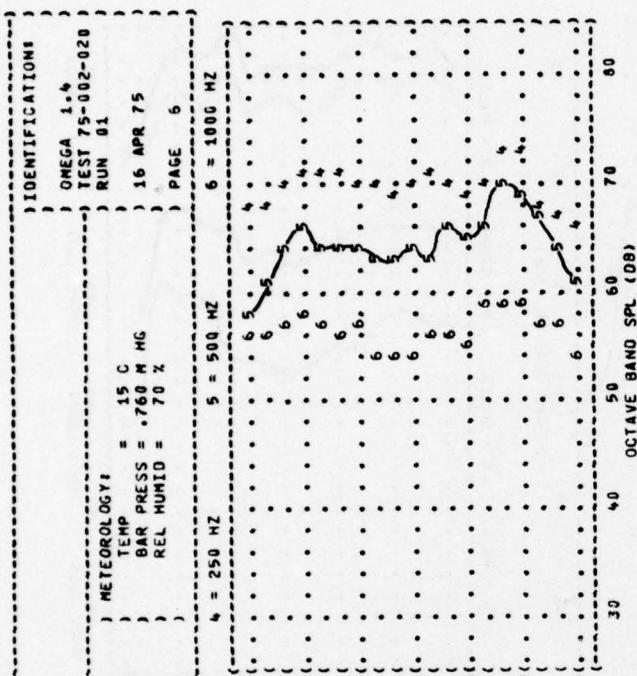
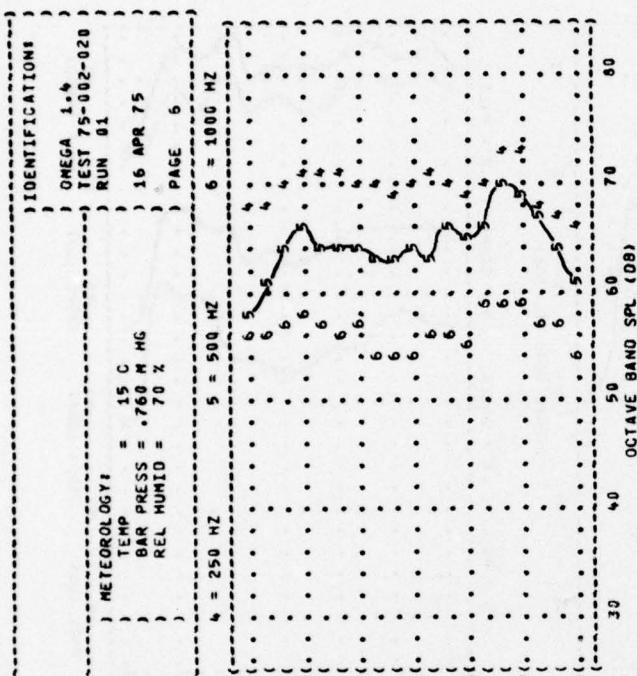
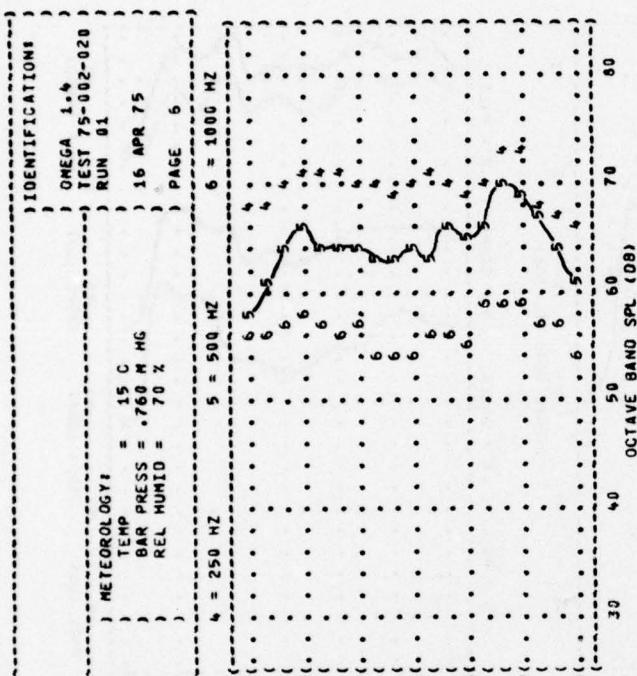
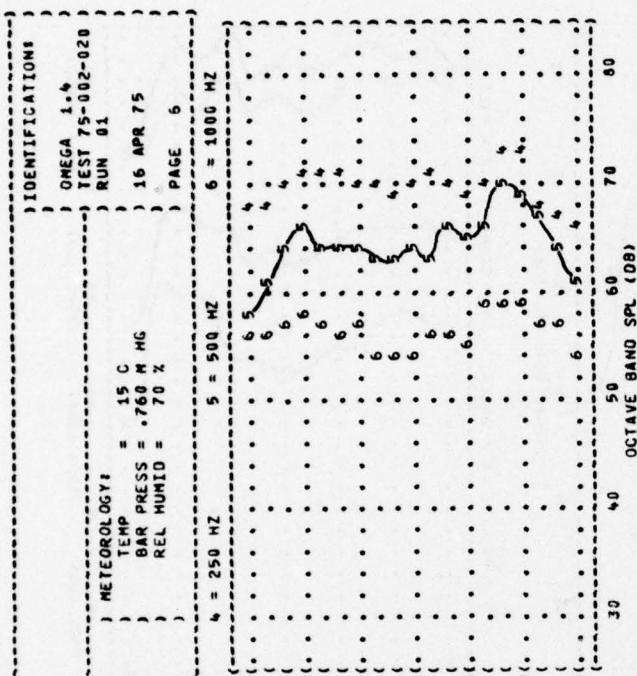
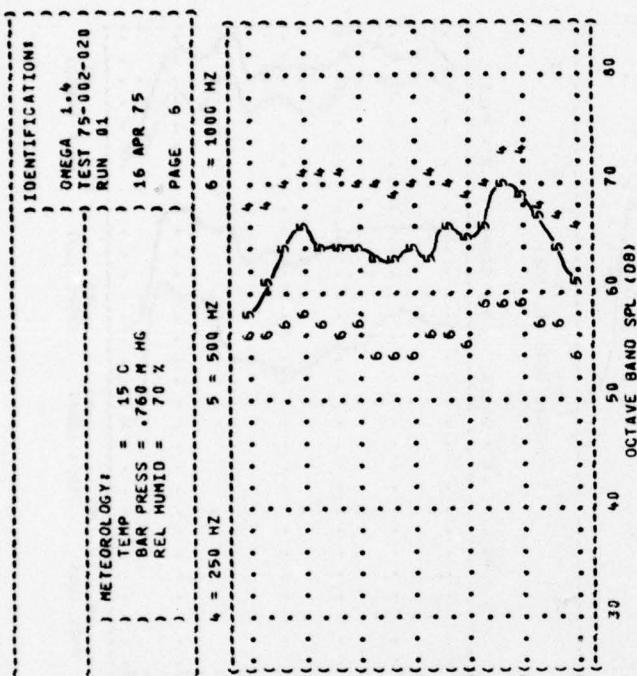
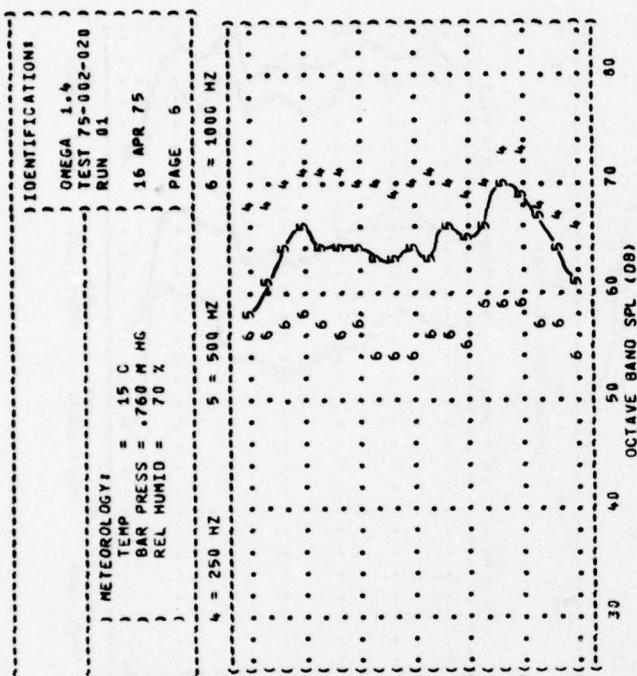
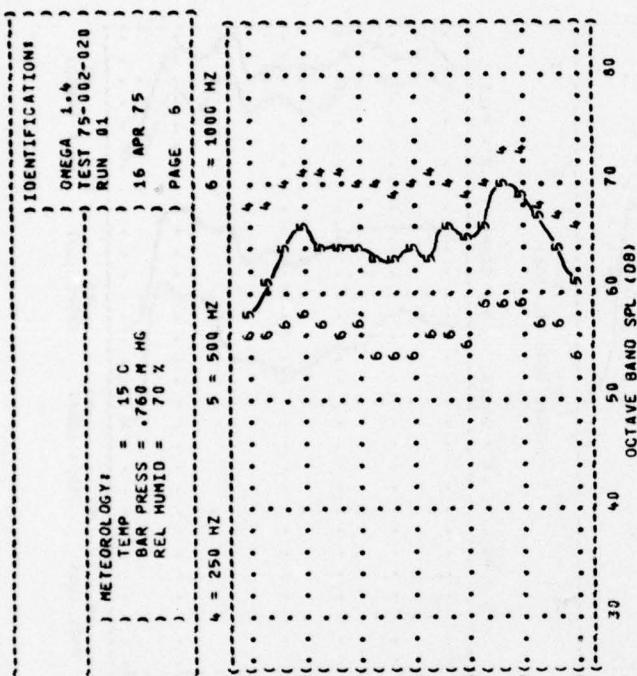
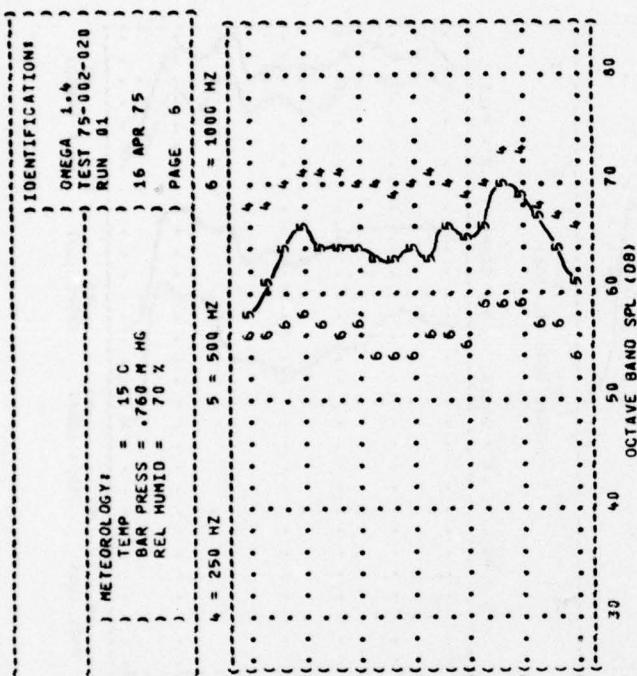
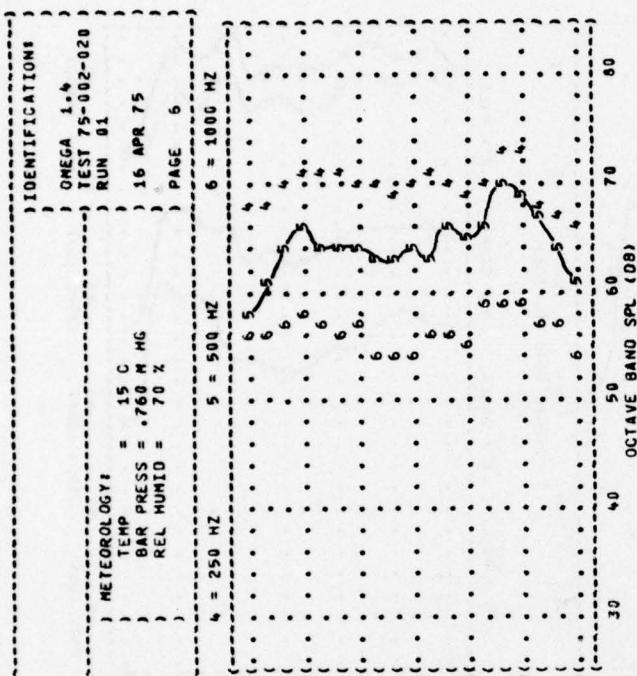
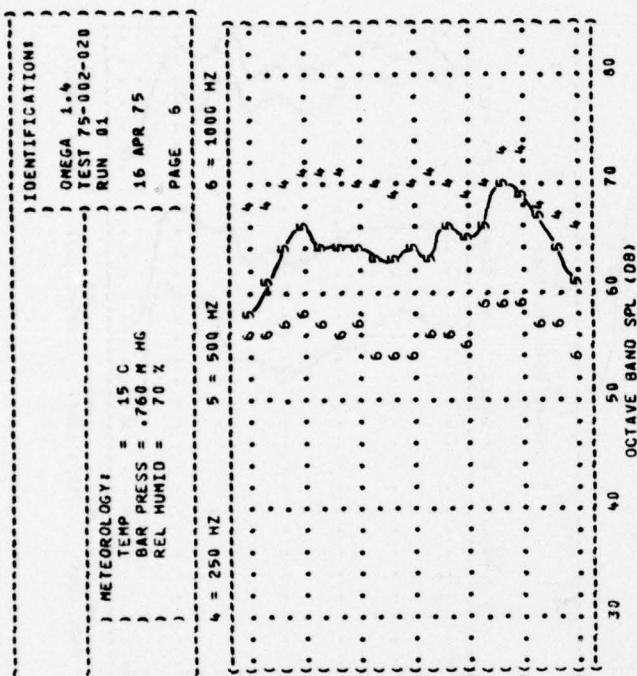
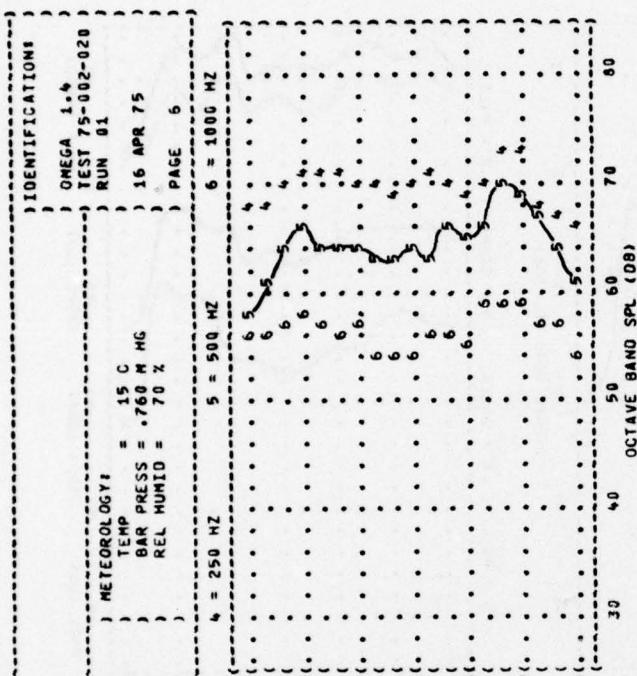
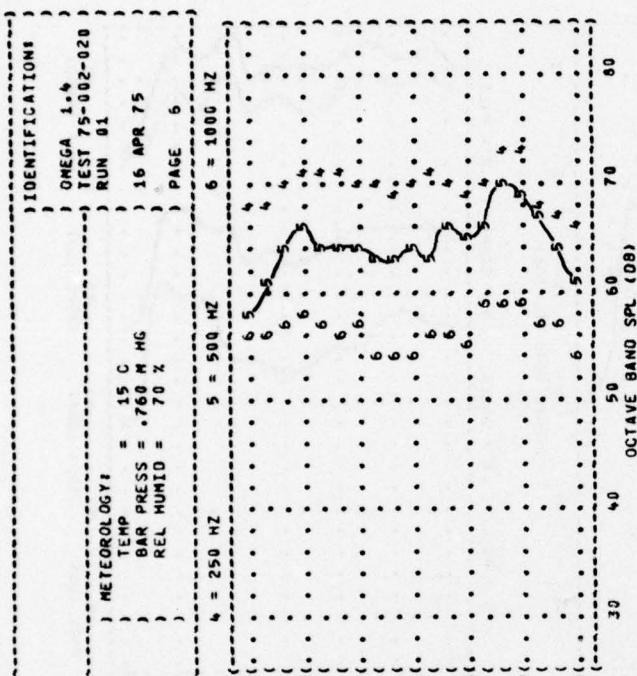
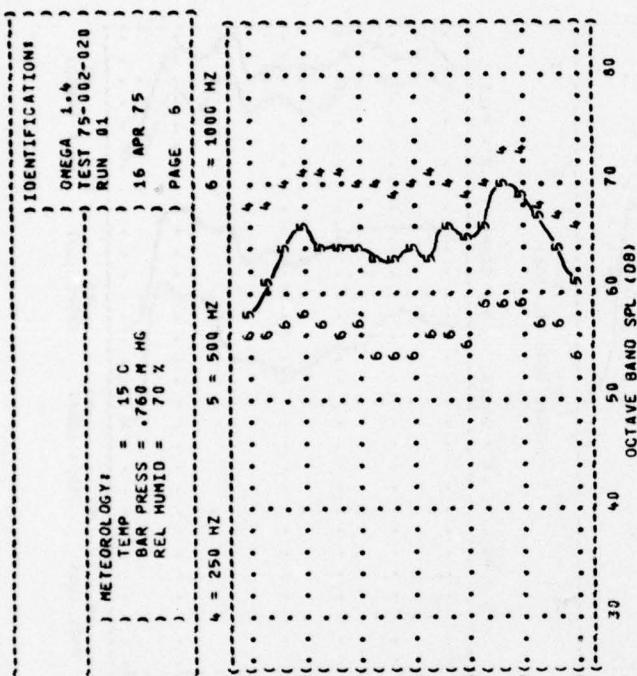
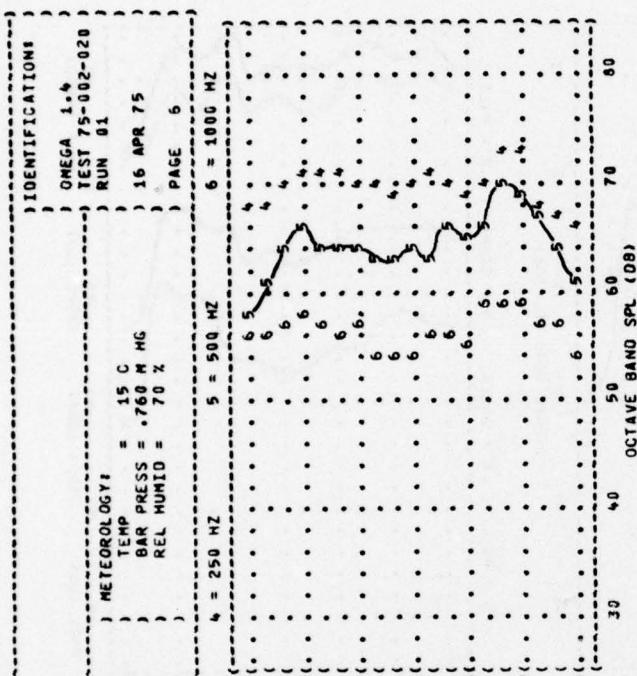
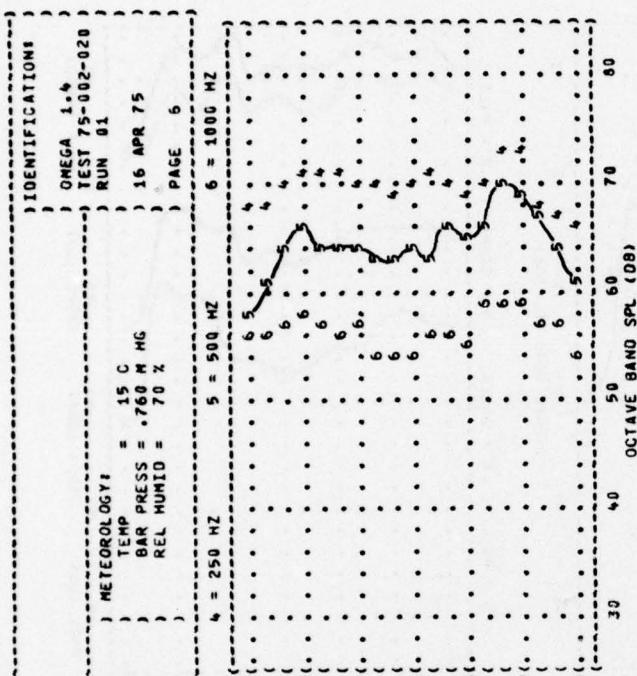
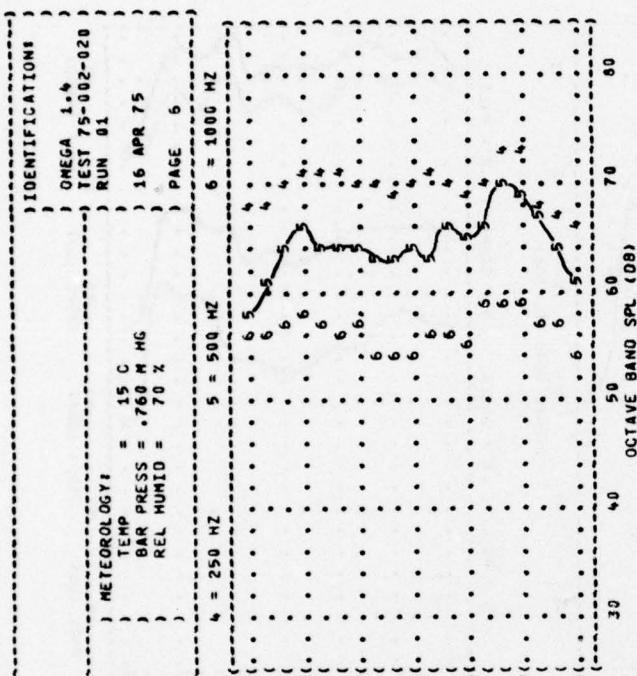
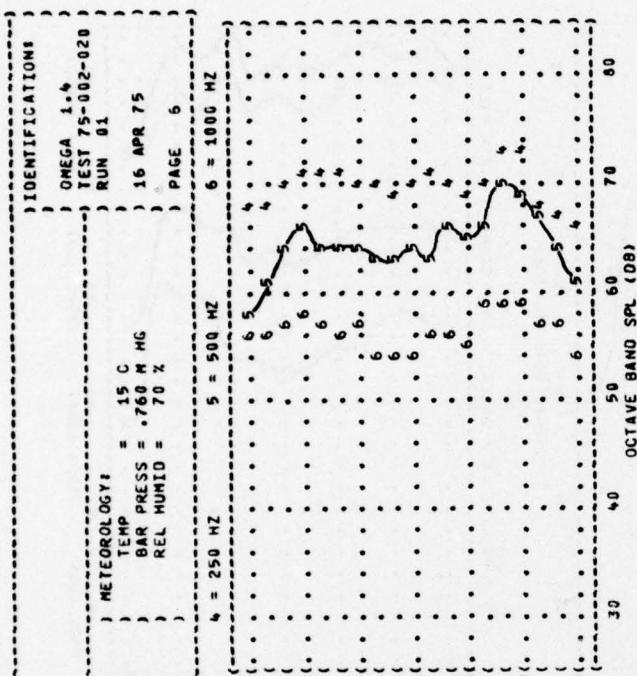
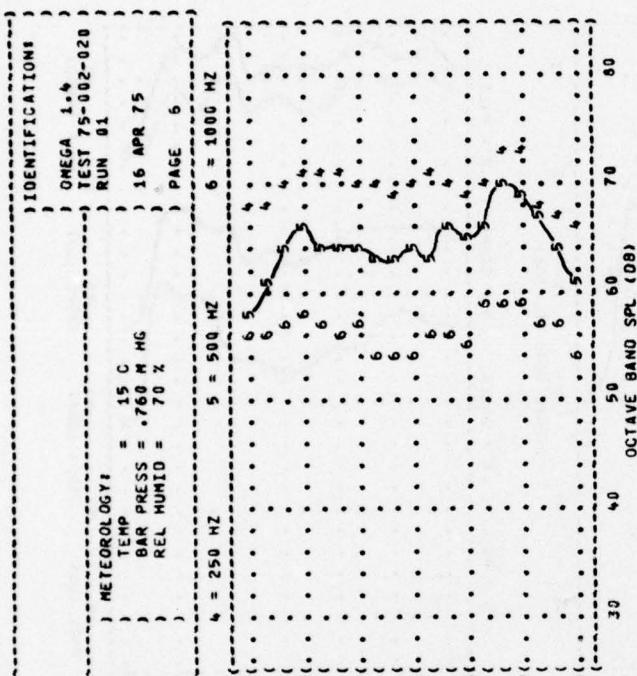
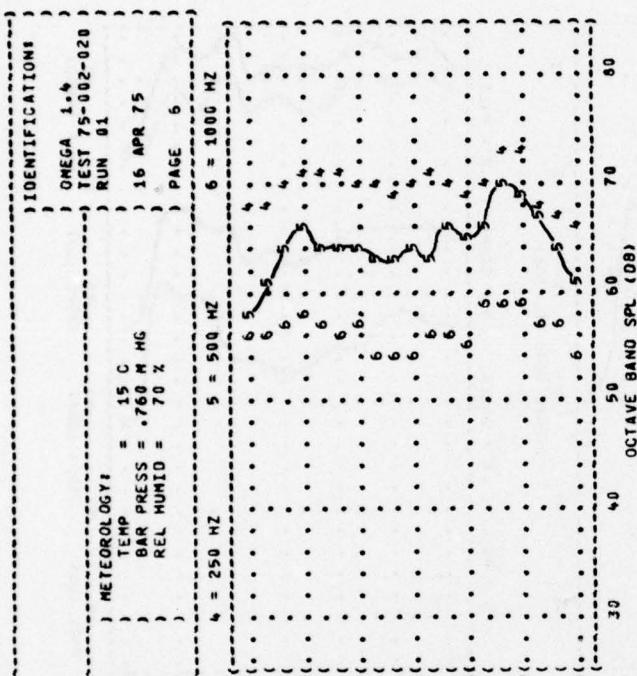
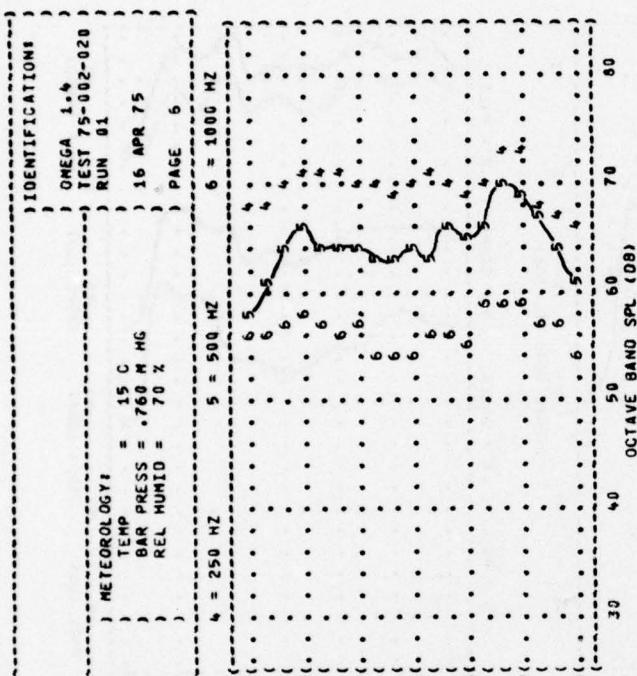
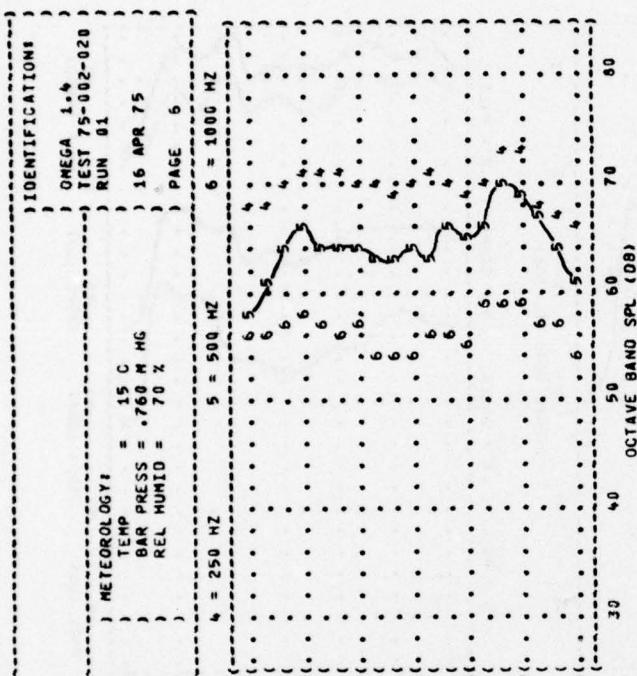
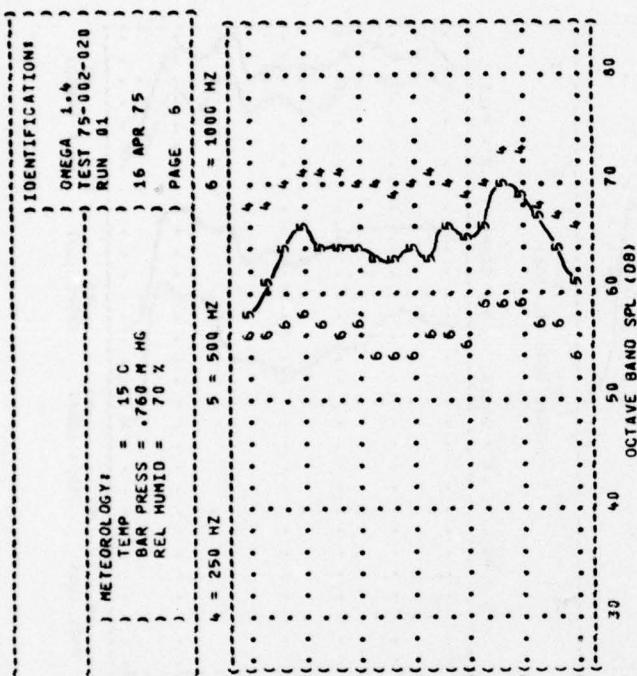
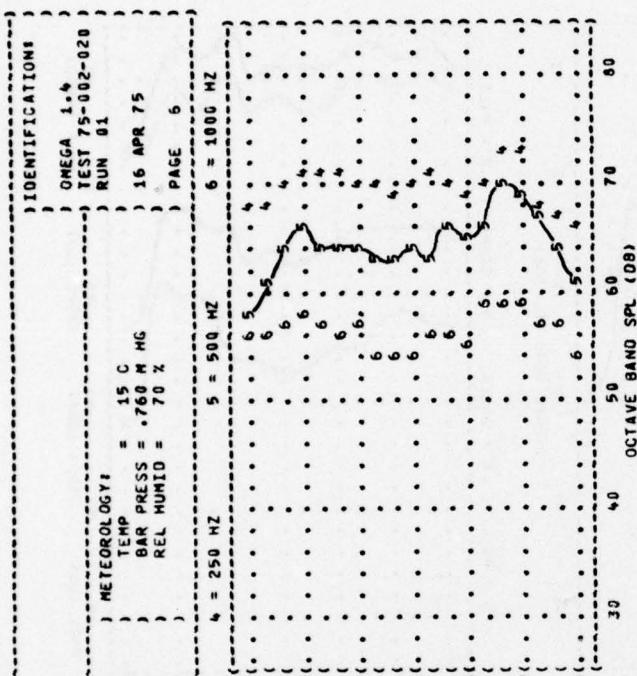
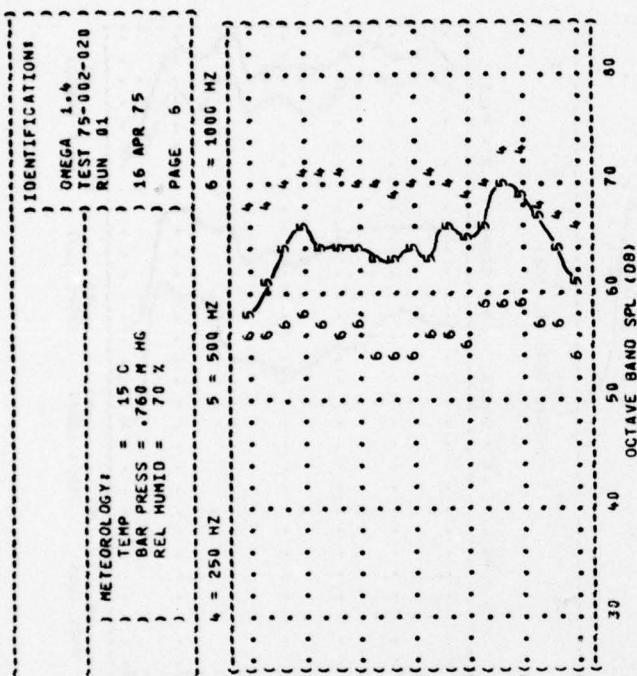
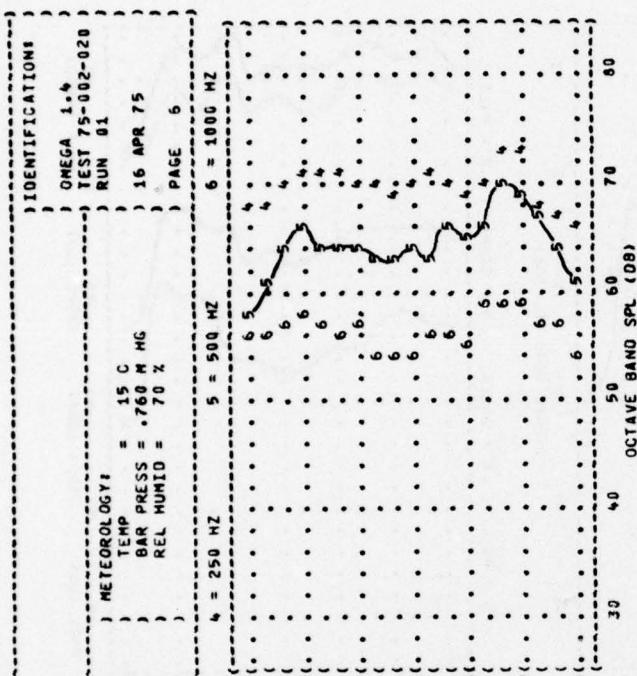
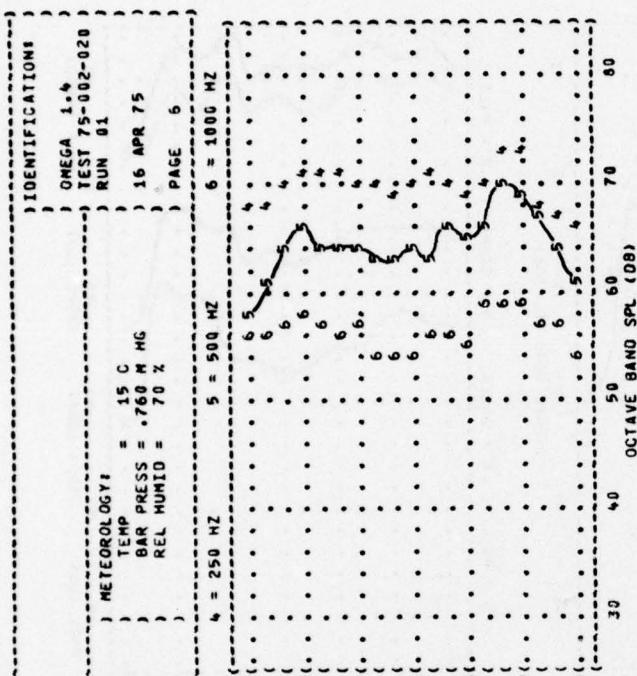
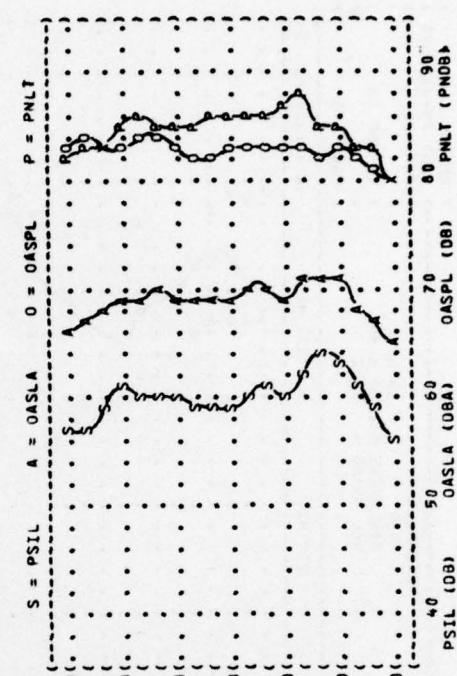
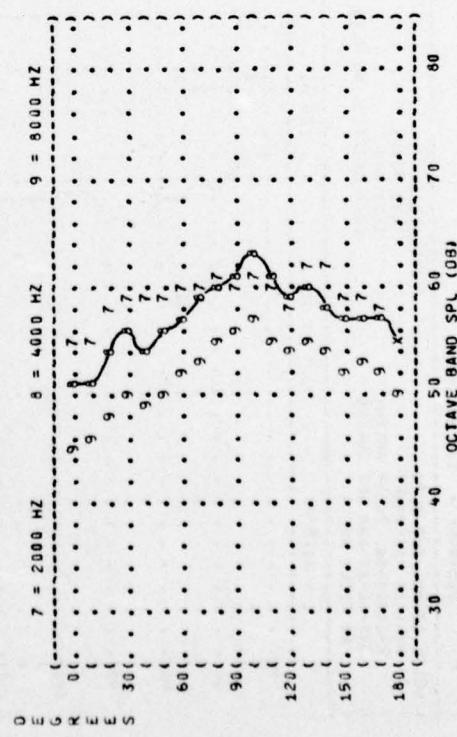
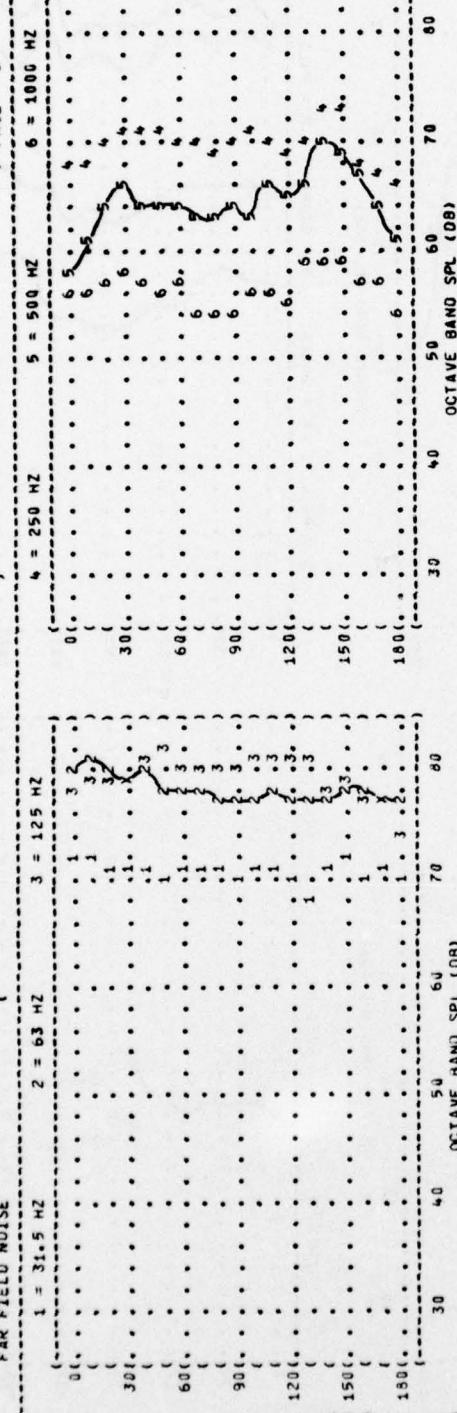
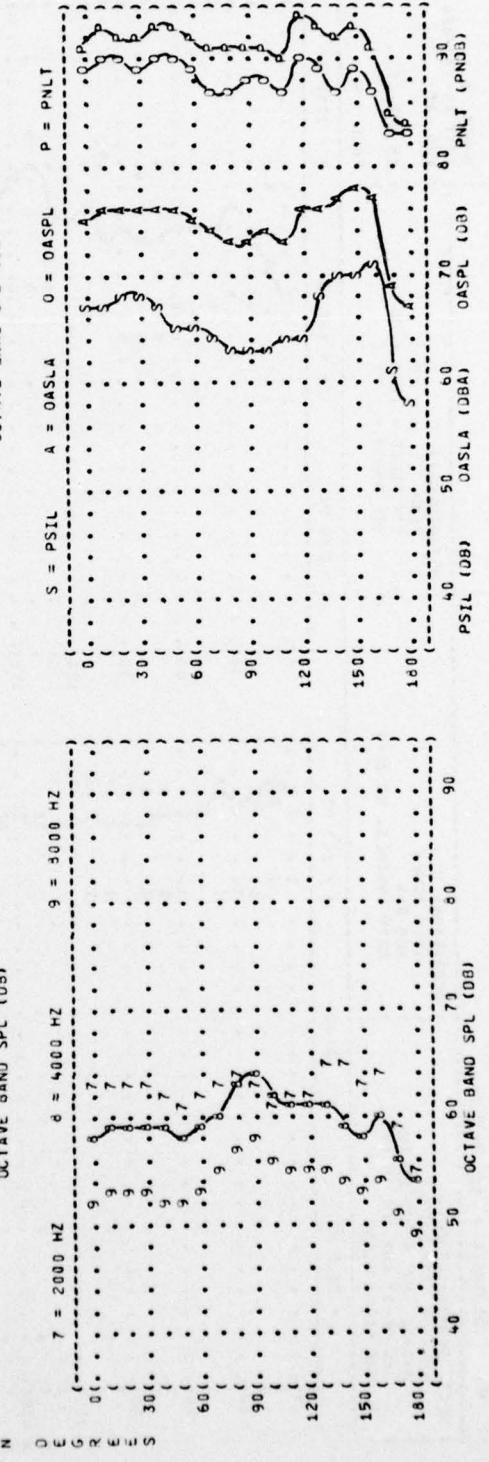
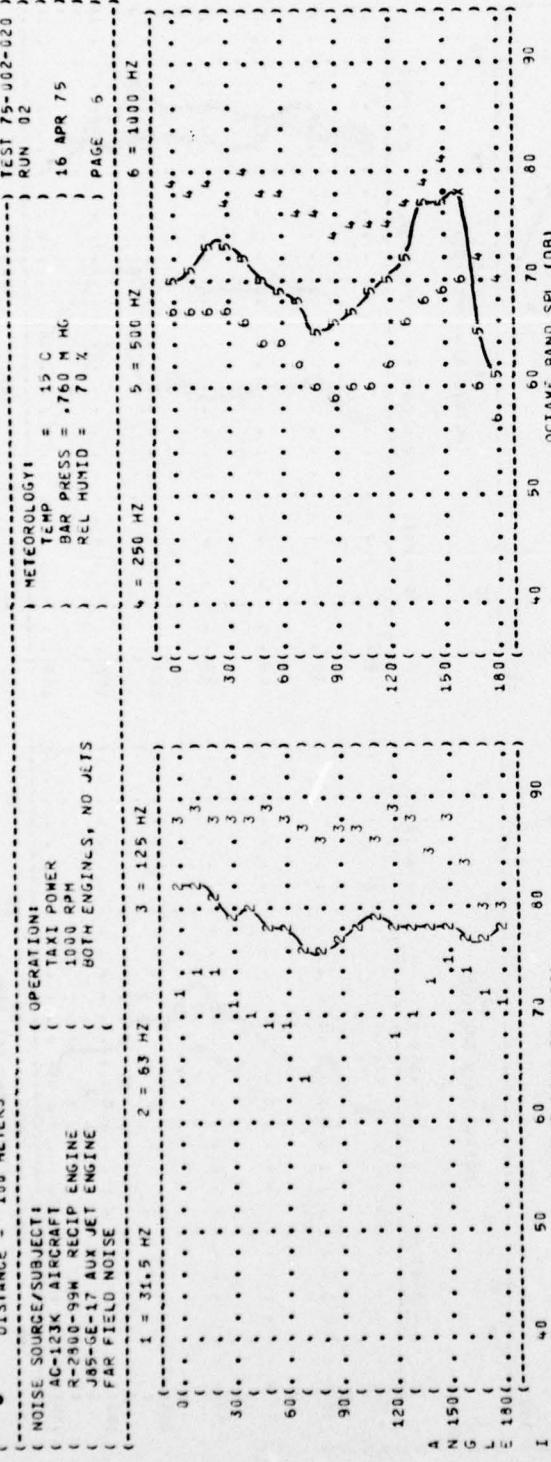


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS



IDENTIFICATION

OMEGA 1•4
TEST 75-J02-020
RUN 02
16 APR 75
PAGE 5

FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

2

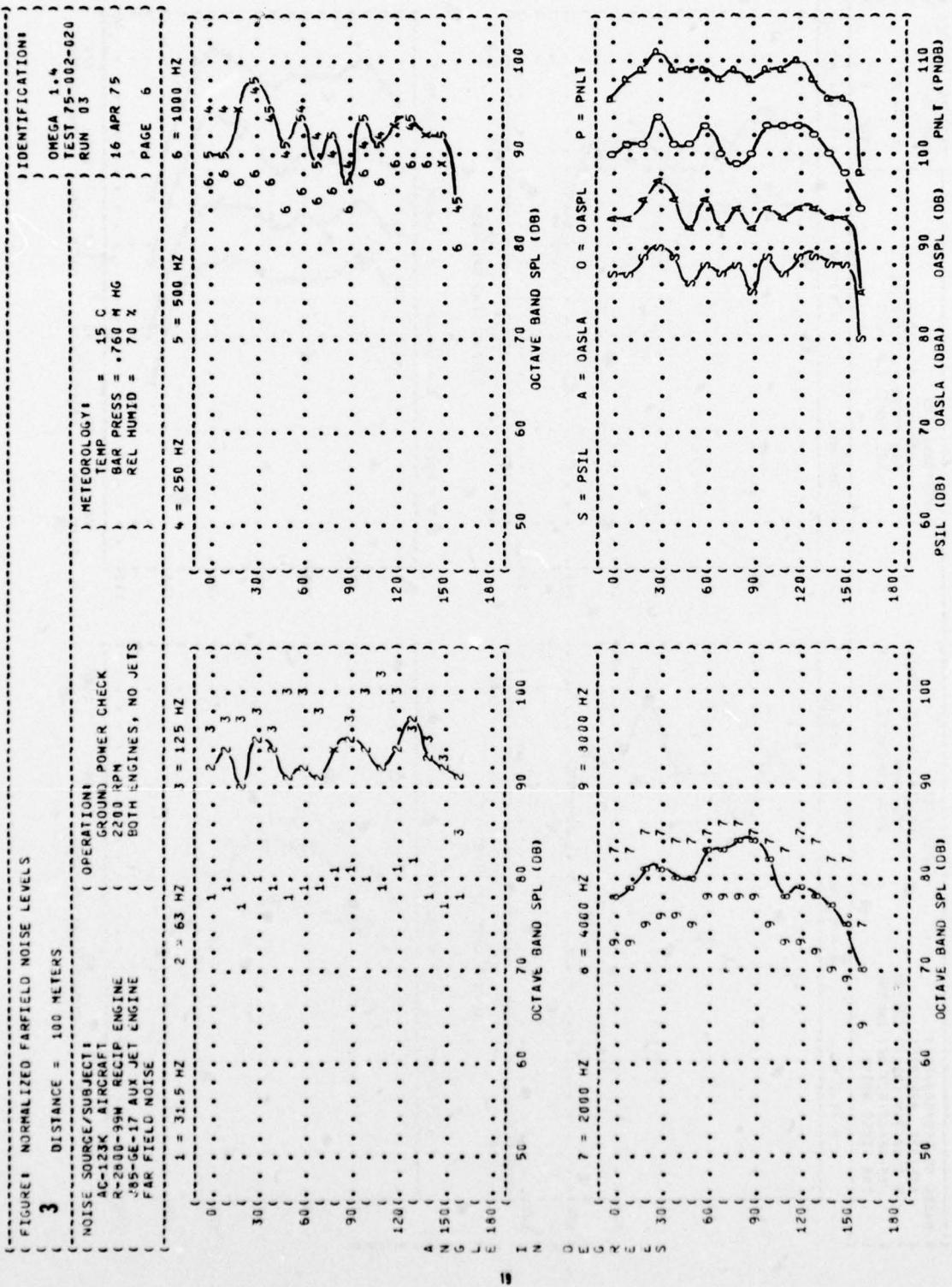
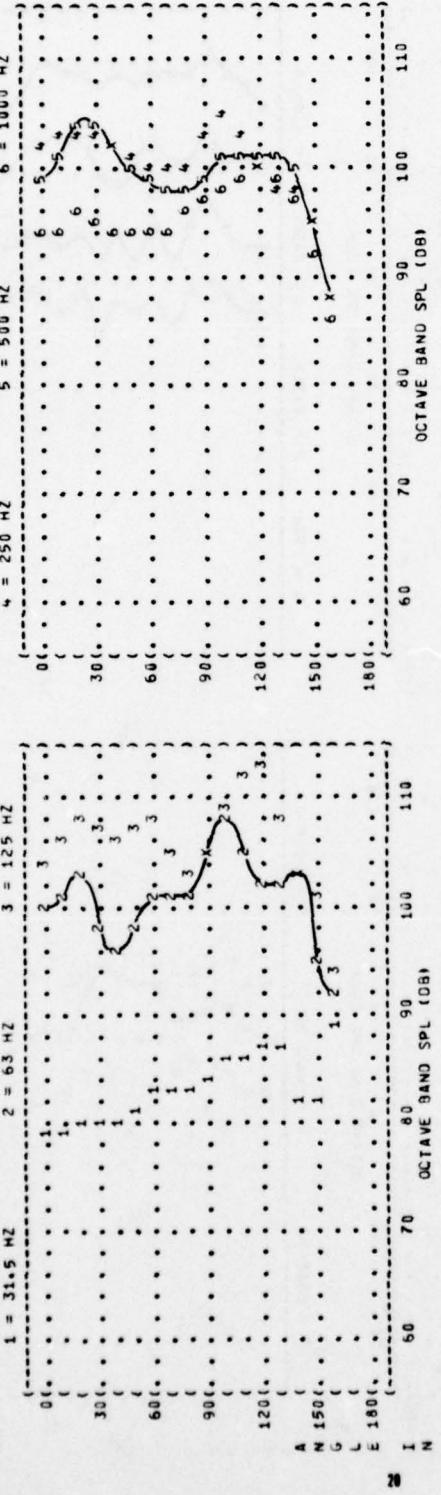


FIGURE I NORMALIZED FARFIELD NOISE LEVELS

FIGURE: NORMALIZED FARFIELD NOISE LEVELS
3 DISTANCE = 100 METERS
 NOISE SOURCE/SUBJECT: AC-12SK AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE
 OPERATIONS:
 MAXIMUM RECIP. POWER
 2700 RPM
 BOTH ENGINES, NO JETS
 METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = 760 Hg
 REL HUMID = 70 %
 TEST 75-002-02
 RUN 04
 OMEGA 1-4
 PAGE 6



D E G
R E S
E E S
30 60 90 120 150 180

7 = 2000 Hz 8 ≈ 4000 Hz 9 = 8000 Hz

P = PNLT O = OASPL A = OASLA S = PSIL

P = PNLT (PNLT) O = OASPL (OASPL) A = OASLA (OASLA) S = PSIL (PSIL)

60 70 80 90 100 110 120
Octave Band SPL (dB)

60 70 80 90 100 110 120
Octave Band SPL (dB)

60 70 80 90 100 110 120
Octave Band SPL (dB)

60 70 80 90 100 110 120
Octave Band SPL (dB)

FIGURE 4: NORMALIZED FARFIELD NOISE LEVELS
 3 DISTANCE = 100 METERS

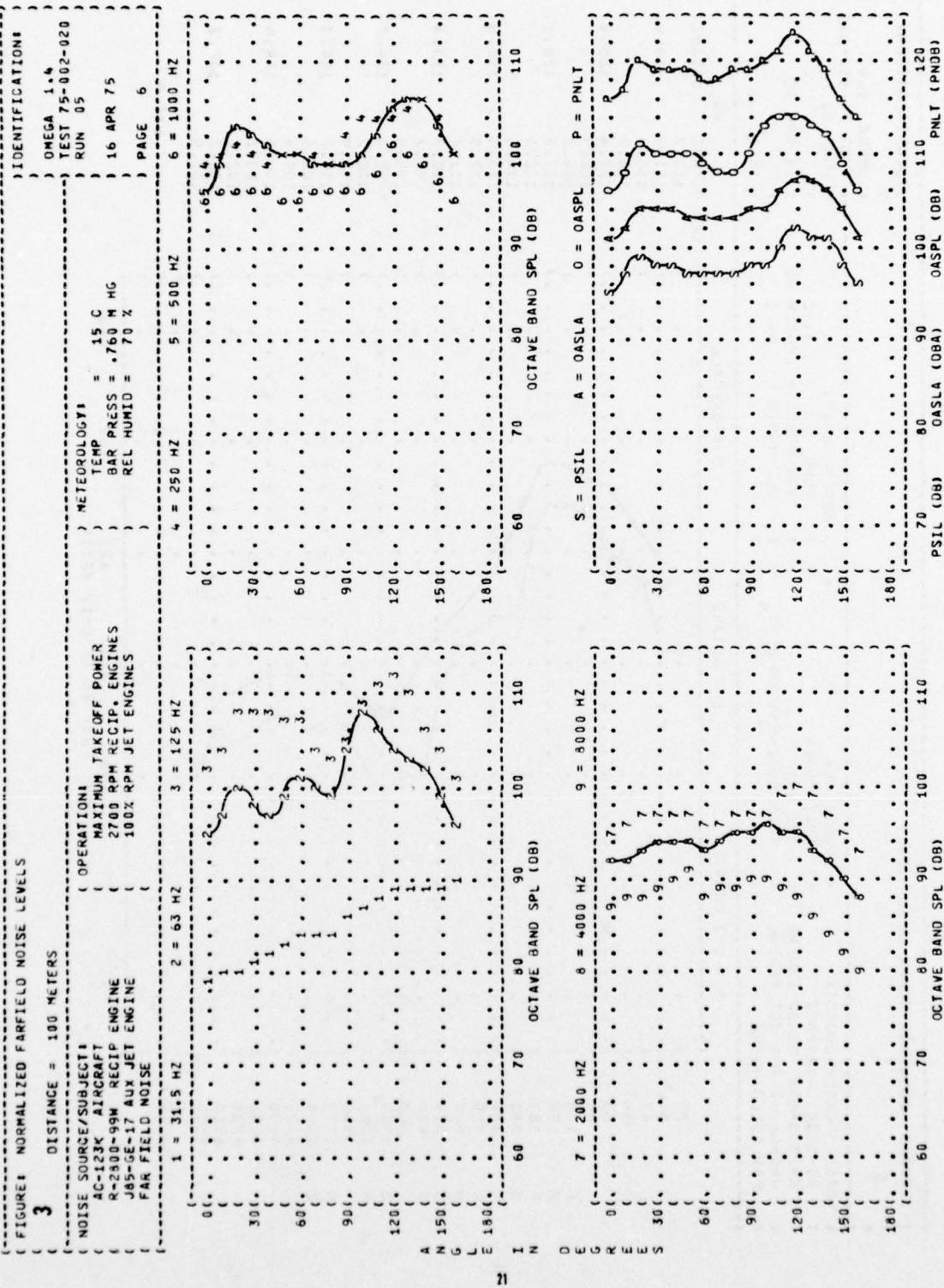
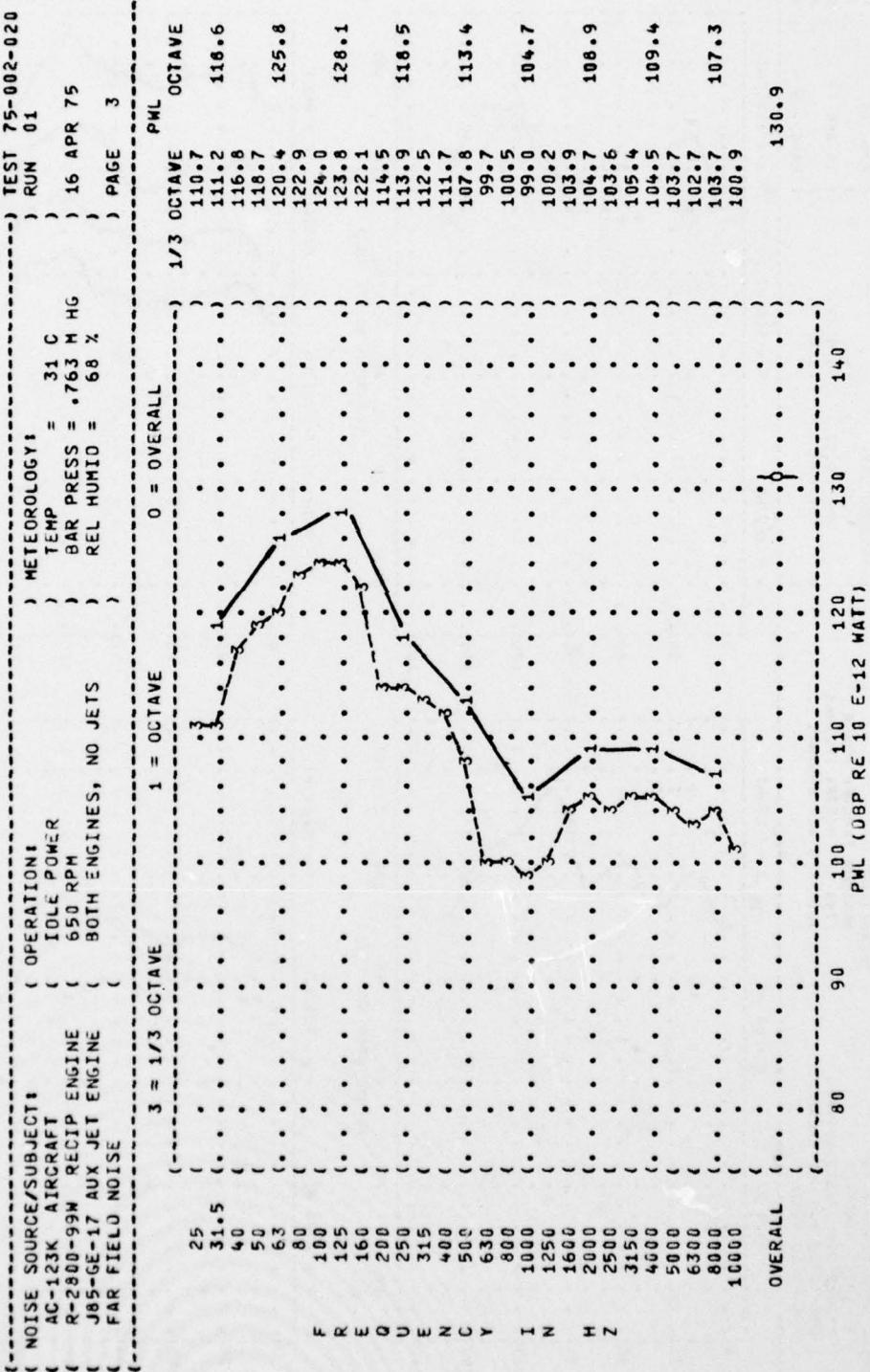


FIGURE 4 ACOUSTIC POWER LEVEL (PWL)

4



{ FIGURE 4 ACOUSTIC POWER LEVEL (PNL)

4

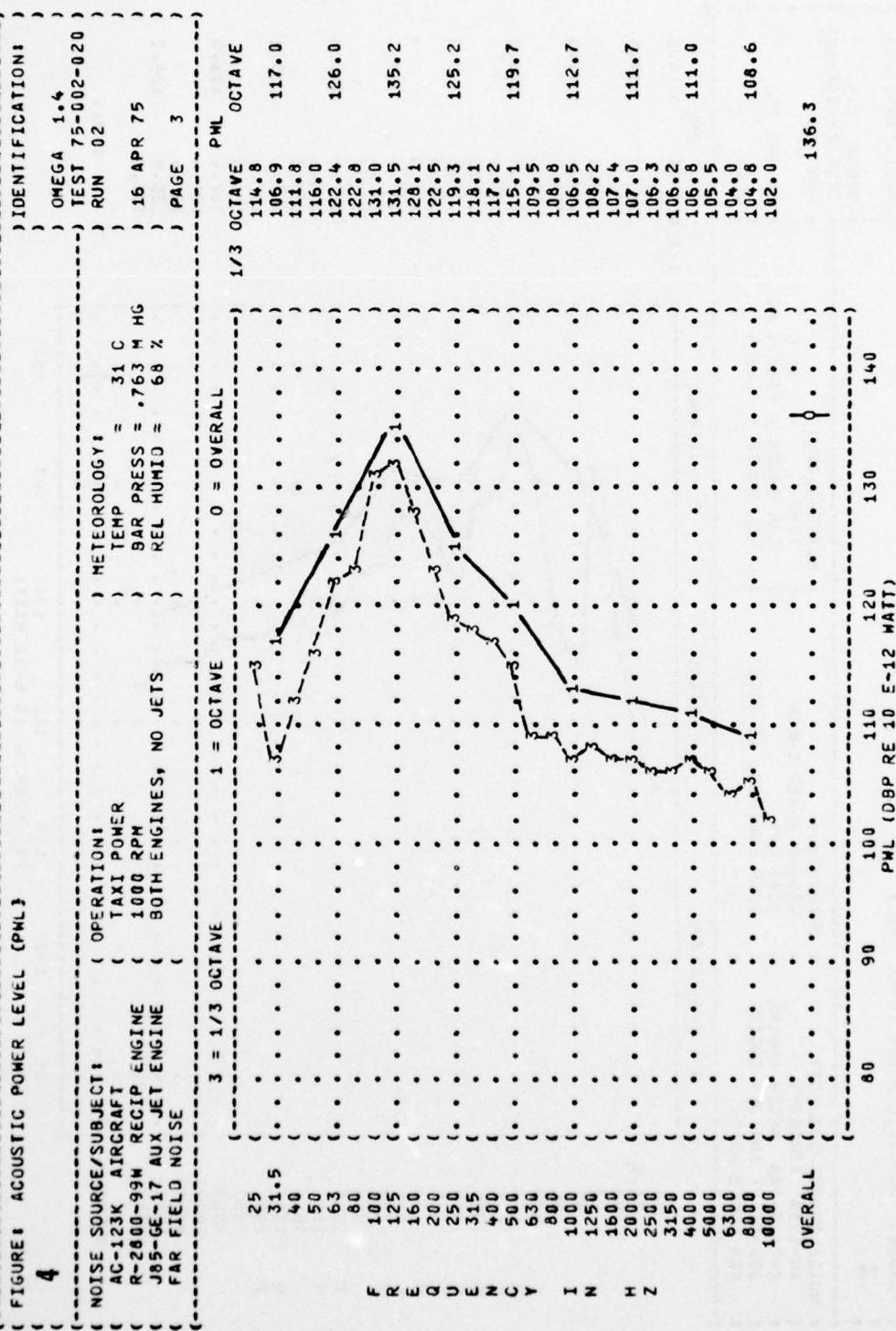


FIGURE: ACOUSTIC POWER LEVEL (PML)

4

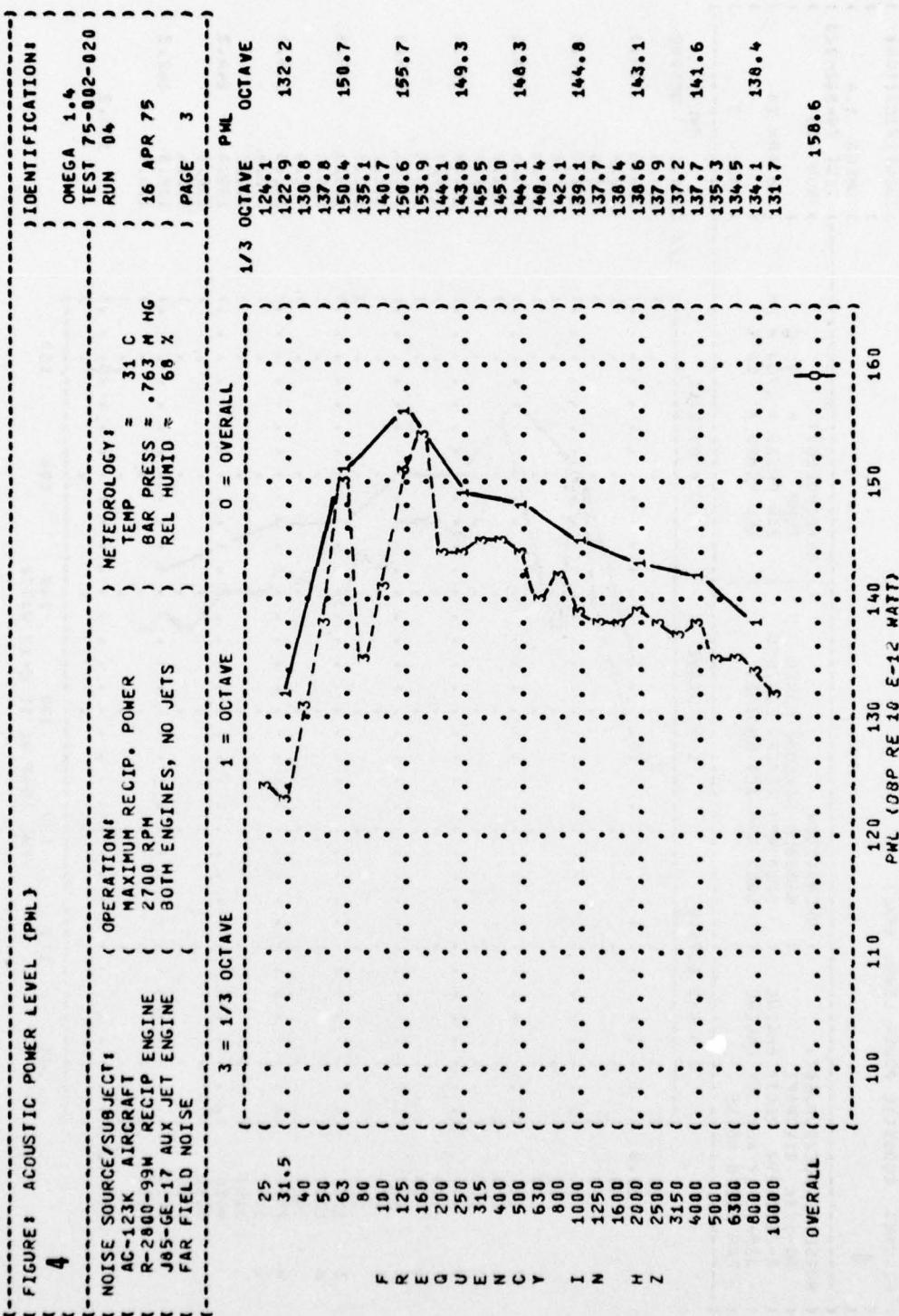


FIGURE 4 ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-020

RUN 05

16 APR 75

PAGE 3

NOISE SOURCE/SUBJECT:

AC-123K AIRCRAFT	OPERATION:	MAXIMUM TAKEOFF POWER	TEMP = 31 C
R-2800-99W RECIP ENGINE		2700 RPM RECIP. ENGINES	BAR PRESS = .763 HG
J85-GE-17 AUX JET ENGINE		100% RPM JET ENGINES	REL HUMID = 68 %
FAR FIELD NOISE			

3 = 1/3 OCTAVE

1 = OCTAVE

0 = OVERALL

PWL

OCTAVE

1/3 OCTAVE

OVERALL 100 110 120 130 140 150 160 159.2

TABLE I DIRECTIVITY INDEX (DB)
6

NOISE SOURCE/SUBJECT:		OPERATION:		ANGLE (DEGREES)												IDENTIFICATION	
		IDLE POWER	650 RPM	90	80	70	60	50	40	30	20	10	0	16 APR 75	PAGE 4		
AC-123K AIRCRAFT	R-2800-99W RECIP ENGINE	BOTH ENGINES, NO JETS	FAR FIELD NOISE												TEST 75-002-020	OMEGA 1.0 ⁴	
															RUN 01		
1/3 OCTAVE															METEOROLOGY		
25	0	2	3	1	-1	0	3	2	1	-1	-2	-1	-2	-2	0	2	-1
31.5	-0	-1	-0	0	2	-2	-1	-1	-1	-1	-1	-1	-2	-1	-1	5	-1
40	2	2	-0	-0	-1	3	-1	-2	-1	-1	-1	-1	-1	-2	-1	-2	-1
50	1	2	1	1	1	3	0	-1	-1	-1	-1	-1	-1	-2	1	2	1
63	2	2	1	1	0	-1	1	0	-1	1	1	1	0	0	-1	0	-2
80	3	4	2	2	1	1	1	1	1	1	1	1	1	-2	-1	-1	-1
100	-1	-0	-1	-0	0	-1	-1	-1	-1	-1	-1	-1	-1	-2	-1	-1	-1
125	-3	-1	-1	-1	-1	2	0	-1	-1	-1	-1	-1	-1	-2	-3	-1	-4
160	-5	-2	-2	-1	3	2	-1	-1	-1	-1	-1	-1	-1	-3	-1	-5	-6
200	-2	-2	-1	2	1	-1	0	-1	-1	-1	-1	-1	-1	-2	0	-5	-8
250	-2	-3	-1	0	1	1	0	0	0	-1	-1	-1	-1	-1	0	-3	-4
315	-5	-3	-2	-1	0	0	0	0	0	-1	-1	-1	-1	-2	-1	-3	-3
400	-7	-4	-1	1	0	-1	0	-1	-1	-1	-1	-1	-1	-3	0	-1	-4
500	-8	-6	-2	-2	3	-3	-3	-3	-3	-3	-3	-3	-3	-4	1	-1	-5
630	-2	-2	-3	-3	-3	-4	-3	-3	-3	-3	-3	-3	-3	-4	0	6	4
800	0	1	0	-1	1	1	1	1	1	1	1	1	1	1	1	1	1
1000	-1	-1	2	2	2	0	0	0	0	0	0	0	0	0	0	2	2
1250	-1	-2	0	2	0	-1	1	-1	-1	-1	-1	-1	-1	-2	2	0	-1
1600	-3	-4	-1	0	0	0	1	0	1	0	1	1	1	1	4	1	-1
2000	-8	-7	-4	-2	-2	-1	-2	1	1	1	1	1	1	-1	1	2	-1
2500	-4	-5	-3	-2	-3	-3	-1	-2	1	1	1	1	1	-1	1	-2	-1
3150	-9	-6	-3	-5	-3	-2	0	2	2	2	2	2	2	-1	2	-1	-3
4000	-8	-6	-4	-5	-5	-5	-3	-2	-1	2	2	2	2	0	-1	-2	-3
5000	-9	-8	-5	-5	-4	-5	-4	-5	-4	-5	-4	-4	-4	1	-1	-3	-2
6300	-9	-8	-5	-5	-4	-5	-4	-5	-4	-5	-4	-4	-4	1	0	-2	-2
8000	-9	-8	-5	-5	-4	-5	-4	-5	-4	-5	-4	-4	-4	1	1	-1	-1
10000	-9	-8	-6	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	1	1	-1	-1
OCTAVE																	
31.5	1	1	0	0	-1	1	1	0	-1	0	-1	0	-1	0	-1	0	-1
63	3	3	2	1	2	0	0	0	-1	-1	-1	-1	-1	-1	-1	0	-1
125	-2	-1	-1	1	1	1	1	1	0	0	0	0	0	0	-1	0	-1
250	-3	-3	-1	0	1	1	1	1	1	1	1	1	1	1	0	3	-4
500	-7	-4	-2	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	4	-5
1000	-9	-9	0	1	0	1	0	1	0	1	0	1	0	1	1	3	1
2000	-5	-5	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	2	-1	-5
4000	-8	-8	-6	-4	-5	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-3	-2
8000	-9	-8	-5	-4	-5	-4	-5	-4	-5	-4	-5	-4	-5	-4	1	-1	-3
OVERALL	-0	1	0	0	1	1	1	0	-1	-1	-1	-1	-1	-1	0	-1	-3

TABLE 6 DIRECTIVITY INDEX (DB)

NOISE SOURCE/SUBJECT		OPERATION:		ANGLE (DEGREES)												IDENTIFICATION			
AC-123K AIRCRAFT		TAXI POWER		METEOROLOGY			TEST 75-002-020			OMEGA 1.4									
R-2800-99W RECIP ENGINE		1000 RPM		TEMP = 31 C			RUN 02			REL HUMID = 68 %									
J85-GE-17 AUX JET ENGINE		BOTH ENGINES, NO JETS																	
FAR FIELD NOISE				ANGLE (DEGREES)															
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	1	4	5	0	-1	-0	-2	-4	-3	-0	-2	-6	-6	-1	1	5	7	6	-2
31.5	5	4	5	3	4	3	2	3	-3	-2	-3	-6	-3	-3	-1	3	5	4	5
40	5	5	6	5	2	0	2	0	-1	-2	-5	-1	-1	-0	-2	0	0	1	5
50	2	3	1	0	2	0	2	0	-1	-2	-1	-0	-0	-2	1	2	2	-1	1
63	4	4	3	2	2	1	0	1	0	1	-1	-0	-0	-3	-2	-1	-5	-5	-3
80	1	2	1	1	0	0	0	0	1	0	1	0	1	-1	-1	1	1	1	1
100	-1	2	1	0	2	3	1	-1	1	1	1	-1	-1	-5	-6	-2	0	-5	-5
125	-1	2	1	-0	2	2	1	-1	1	-1	-6	-4	-7	-1	5	-2	-5	-1	-12
160	-1	2	2	2	2	1	0	-2	-3	-1	2	-1	2	-1	0	2	-1	-5	-8
200	2	1	0	1	0	4	2	1	-1	-2	-3	-2	-2	-1	1	2	-1	-6	-6
250	0	1	0	-1	0	1	2	1	0	0	-2	-3	-2	-1	3	4	0	-5	-9
315	-1	0	-1	0	-1	1	-1	1	-1	1	-2	-2	-1	-3	-1	4	7	0	-7
400	-1	-1	1	-1	1	-1	1	-1	1	-1	-6	-4	-4	-3	-1	4	7	0	-12
500	-2	-2	-2	-2	-2	1	1	0	1	1	-5	-7	-5	-3	-1	5	5	7	-10
630	3	4	3	2	1	1	1	1	1	1	-7	-5	-5	-3	-1	5	5	7	-10
800	2	2	2	3	3	3	3	3	3	3	-5	-6	-5	-4	-3	2	3	3	-7
1000	2	2	2	1	3	3	3	1	2	-1	-2	-4	-4	-2	2	0	2	-6	-9
1250	2	1	1	1	1	1	1	1	1	1	-1	-2	-1	-4	-2	1	2	1	-11
1600	1	1	1	1	1	1	1	1	1	1	-1	0	-3	-2	-1	4	3	1	-8
2000	-1	0	0	0	0	-1	-1	-1	-1	-1	1	1	1	-2	-1	2	2	0	1
2500	0	0	0	0	0	-1	-1	-1	-1	-1	1	1	1	0	0	1	2	1	-8
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6300	-3	-2	-2	-2	-2	-2	-3	-2	-3	-2	1	1	1	0	-1	-2	-1	-1	-6
8000	-4	-2	-3	-2	-2	-3	-2	-3	-2	-1	1	1	1	0	-1	-2	-1	-1	-6
10000	-3	-2	-2	-3	-2	-2	-3	-2	-1	0	2	3	1	1	0	-1	-3	-1	-5
OCTAVE																			
31.5	3	5	2	1	2	0	0	-2	-1	-1	-1	-1	-1	-1	0	0	4	5	2
63	4	4	3	1	1	2	0	1	1	1	1	1	1	1	0	0	0	-1	-1
125	0	2	1	1	0	3	1	1	1	1	1	1	1	1	0	-3	0	-4	-8
250	1	1	1	0	2	1	2	1	1	1	1	1	1	1	0	2	4	1	-7
500	-2	-9	1	-2	-1	-2	-1	-2	-1	-2	-1	-7	-5	-5	-1	2	5	6	-11
1000	-3	-3	2	2	2	0	-1	-1	-1	-1	-1	-4	-5	-5	0	2	4	5	-7
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-9
4000	-3	-2	-2	-1	-3	-2	-3	-2	-1	-2	-1	-1	-1	-1	-1	-1	-2	-1	-7
6000	-3	-2	-3	-2	-3	-2	-3	-2	-1	-2	-1	-1	-1	-1	-1	-1	-2	-1	-6
OVERALL	1	2	1	1	1	2	0	-1	-2	-1	-1	-1	-1	-1	0	-1	1	-2	-6

TABLE I DIRECTIVITY INDEX (DB)
6

NOISE SOURCE/SUBJECT:		OPERATION!										ANGLE (DEGREES)										IDENTIFICATION	
AC-123K AIRCRAFT R-2800-99W RECIP ENGINE J85-GE-17 AUX JET ENGINE FAR FIELD NOISE		GROUND POWER CHECK 2200 RPM BOTH ENGINES, NO JETS										METEOROLOGY: TEMP = 31 C BAR PRESS = .763 MG REL HUMID = 68 %										TEST 75-002-020 RUN 03 16 APR 75 PAGE 4	
FREQ (HZ)		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180			
1/3 OCTAVE																							
25	0	-3	-2	2	-2	-0	0	1	1	-0	-3	-2	0	0	0	1	-1	-1	-1	5			
31.5	-0	-2	-1	-0	-1	-0	-1	-1	-1	-1	-1	-1	0	2	0	0	1	-1	-1	-2			
40	-2	-1	-3	1	-0	-2	-1	-1	-1	-1	-1	-1	1	1	1	1	3	-2	-4	-3			
50	-3	0	-4	1	0	-3	-2	-2	0	0	0	0	0	2	1	4	-1	-2	-4	-3			
63	2	1	0	2	0	-1	-0	-1	-1	-1	-1	-1	0	0	1	2	0	1	1	1			
80	6	5	4	2	1	1	1	1	1	1	1	1	1	0	0	1	1	2	2	2			
100	-3	1	2	3	-3	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1			
125	-5	-6	-4	-3	-2	3	2	1	1	1	1	1	1	1	1	1	4	-6	-4	-7			
160	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1			
200	2	3	2	4	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1			
250	5	2	4	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
315	1	1	4	6	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
400	-2	-3	3	7	3	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1			
500	-3	-3	2	4	2	1	1	1	1	1	1	1	1	1	1	1	1	0	2	1			
630	-3	-3	0	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	2	1			
800	-1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1			
1000	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
1250	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
1600	-1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	1	1	1			
2000	-1	-1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1			
2500	-2	-2	-0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1			
3150	-2	-2	-0	0	0	1	1	1	1	1	1	1	1	1	1	1	-1	1	1	1			
4000	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1			
5000	-3	-3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1			
6300	-3	-2	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-1	-1	-1	-1			
8000	-3	-3	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-1	-1	-1	-1			
10000	-3	-2	-0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-1	-1	-1			
OCTAVE																							
31.5	-1	-1	-3	1	-1	-2	0	-2	-2	-1	-1	-1	-1	-1	-1	-1	0	1	1	1	-2		
63	-2	1	-2	-2	-0	-2	1	2	3	5	2	2	2	2	2	2	2	3	2	1	-2		
125	-2	-2	-3	2	1	0	-2	-3	2	0	-1	-4	-3	-4	-1	-1	-1	1	1	1	-13		
250	-3	-3	-3	2	0	2	5	2	2	1	-4	-0	-1	-1	-1	-1	-1	1	1	1	-9		
500	-3	-3	-1	0	1	0	1	0	1	0	-1	-2	-1	-1	-1	-1	-1	1	1	1	-8		
1000	-0	-1	0	1	0	0	1	0	1	0	1	0	1	0	1	0	0	2	2	2	-7		
2000	-1	-1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	-9		
4000	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7		
8000	-3	-3	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-1	-1	-1	-1	-11		
16000	-3	-2	-0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-1	-1	-1	-11		
OVERALL	-1	-1	-0	0	2	-0	-0	1	-1	-2	-1	1	2	2	1	-2	-1	1	2	1	-3	-6	

TABLE I DIRECIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:										OPERATION:										IDENTIFICATION:									
AC-123K AIRCRAFT										MAXIMUM RECIP. POWER										TEST 75-002-020									
R-2800-99W RECIP ENGINE										2700 RPM										OMEGA 1.4									
JB5-GE-17 AUX JET ENGINE										BOTH ENGINES, NO JETS										RUN 04									
FAR FIELD NOISE										C										TEST 75-002-020									
NOISE SOURCE/SUBJECT:										TEMP = 31 C										16 APR 75									
AC-123K AIRCRAFT										BAR PRESS = .763 Hg										REL HUMID = 68 %									
R-2800-99W RECIP ENGINE										TEST 75-002-020										PAGE 4									
25	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	25	0	-1	-2	-3	-4	-5	-6	-7	-8
31.5	-8	-7	-5	-3	-1	-4	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	31.5	-1	-2	-3	-4	-5	-6	-7	-8	-9
40	-4	-2	-1	-0	-2	-4	-1	-0	-1	0	0	2	3	4	1	-2	-2	-1	-1	40	-1	-2	-3	-4	-5	-6	-7	-8	-9
50	-6	-5	-5	-4	-3	-6	-5	-4	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	50	-1	-2	-3	-4	-5	-6	-7	-8	-9
63	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	63	-1	-2	-3	-4	-5	-6	-7	-8	-9
80	-3	-2	-0	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	80	-1	-2	-3	-4	-5	-6	-7	-8	-9
100	-1	-2	-2	-0	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	100	-1	-2	-3	-4	-5	-6	-7	-8	-9
125	-4	-3	-2	-0	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	125	-1	-2	-3	-4	-5	-6	-7	-8	-9
160	-3	-1	-1	-1	-0	-2	-1	-0	-1	-0	-1	-0	-1	-0	-1	-0	-1	-0	-1	160	-1	-2	-3	-4	-5	-6	-7	-8	-9
200	-1	-1	-1	-1	-1	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	200	-1	-2	-3	-4	-5	-6	-7	-8	-9
250	-2	-2	-2	-2	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	250	-1	-2	-3	-4	-5	-6	-7	-8	-9
315	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	315	-1	-2	-3	-4	-5	-6	-7	-8	-9
400	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	400	-1	-2	-3	-4	-5	-6	-7	-8	-9
500	-3	-0	-4	-3	-1	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	500	-1	-2	-3	-4	-5	-6	-7	-8	-9
630	-4	-2	-2	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	630	-1	-2	-3	-4	-5	-6	-7	-8	-9
800	-4	-1	-2	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	800	-1	-2	-3	-4	-5	-6	-7	-8	-9
1000	-2	-2	-1	-2	-1	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	1000	-1	-2	-3	-4	-5	-6	-7	-8	-9
1250	-1	-0	-1	-1	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1250	-1	-2	-3	-4	-5	-6	-7	-8	-9
1600	-3	-0	-2	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1600	-1	-2	-3	-4	-5	-6	-7	-8	-9
2000	-3	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	2000	-1	-2	-3	-4	-5	-6	-7	-8	-9
2500	-3	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	2500	-1	-2	-3	-4	-5	-6	-7	-8	-9
3150	-4	-2	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	3150	-1	-2	-3	-4	-5	-6	-7	-8	-9
4000	-6	-3	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	4000	-1	-2	-3	-4	-5	-6	-7	-8	-9
5000	-5	-2	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	5000	-1	-2	-3	-4	-5	-6	-7	-8	-9
6300	-5	-3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	6300	-1	-2	-3	-4	-5	-6	-7	-8	-9
8000	-5	-3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	8000	-1	-2	-3	-4	-5	-6	-7	-8	-9
10000	-5	-3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	10000	-1	-2	-3	-4	-5	-6	-7	-8	-9
OCTAVE	-5	-4	-4	-5	-5	-4	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	31.5	-1	-2	-3	-4	-5	-6	-7	-8	-9
63	-2	-2	-0	-5	-4	-3	-2	-1	-0	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	63	-1	-2	-3	-4	-5	-6	-7	-8	-9
125	-4	-2	-1	-2	-1	-0	-1	-0	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	125	-1	-2	-3	-4	-5	-6	-7	-8	-9
250	-1	-1	-0	-4	-4	-2	-2	-1	-0	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	250	-1	-2	-3	-4	-5	-6	-7	-8	-9
500	-2	-0	-4	-4	-2	-2	-3	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	500	-1	-2	-3	-4	-5	-6	-7	-8	-9
1000	-3	-2	-1	-2	-1	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1000	-1	-2	-3	-4	-5	-6	-7	-8	-9
2000	-3	-1	-2	-1	-0	-1	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	2000	-1	-2	-3	-4	-5	-6	-7	-8	-9
4000	-5	-2	-0	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	4000	-1	-2	-3	-4	-5	-6	-7	-8	-9
8000	-5	-3	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	8000	-1	-2	-3	-4	-5	-6	-7	-8	-9
OVERALL	-2	-1	1	-0	-1	-1	-0	-1	-0	-2	-3	-0	-2	-3	-0	-3	-0	-3	-0	OVERALL	-1	-2	-3	-4	-5	-6	-7	-8	-9

TABLE I DIRECTIVITY INDEX (DB)

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NOISE SOURCE/SUBJECT:		OPERATION:						METEOROLOGY:						IDENTIFICATION:						
AC-123K AIRCRAFT	R-2800-99W RECIP ENGINE	MAXIMUM TAKEOFF POWER			TEMP = 31 C			TEST 75-002-020			OMEGA 1.4		RUN 05		16 APR 75		PAGE 4			
J85-GE-17 AUX JET ENGINE	FAR FIELD NOISE	2700 RPM RECIP. ENGINES			BAR PRESS = .763 MM HG			REL HUMID = 68 %												
FREQ (HZ)		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																				
25	-6	-6	-6	-5	-5	-4	-3	-2	-2	-2	-2	-1	-0	0	1	2	4	5	6	6
31.5	-6	-6	-5	-5	-4	-4	-3	-2	-2	-2	-2	-1	-1	1	2	4	5	5	6	6
40	-9	-7	-6	-5	-4	-3	-2	-2	-2	-1	-1	-1	2	3	3	3	2	1	-4	-4
50	-11	-7	-3	-5	-6	-3	-4	-5	-1	-5	-1	5	3	1	0	-1	-2	-1	-5	-10
63	-9	-6	-3	-5	-6	-4	-2	-3	-4	-2	-3	5	3	1	0	-1	-2	-1	-5	-10
80	-1	-1	-1	-2	-3	-4	-4	-5	-5	-4	-4	-2	-1	2	4	5	4	2	-1	-1
100	-3	-3	-3	-3	-3	-3	-4	-4	-4	-4	-4	-3	-1	1	4	5	4	2	-1	-1
125	-7	-6	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	3	5	2	0	-3	-5
160	-5	-3	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	1	3	4	1	-3	-6	-9	-9
200	-3	-3	-2	-4	-5	-4	-2	-4	-5	-4	-5	-4	0	3	2	2	3	4	1	-6
250	-6	-3	-0	-1	-2	-3	-3	-3	-3	-3	-3	-3	-0	2	2	2	3	4	1	-5
315	-4	-2	-0	-1	-2	-1	-2	-1	-2	-1	-2	-1	0	1	2	3	4	2	0	0
400	-6	-2	2	-1	-1	-2	-1	-3	-3	-3	-3	-3	-2	0	3	3	4	1	-3	-3
500	-6	-2	1	0	-1	-2	-2	-3	-3	-3	-3	-3	-3	0	3	4	1	-3	-5	-6
630	-7	-7	-1	-2	-3	-2	-1	-2	-2	-2	-2	-2	-2	0	2	3	4	1	-3	-6
800	-3	-2	-2	-2	-2	-2	-3	-2	-2	-2	-2	-2	-2	1	4	3	3	0	-2	-5
1000	-2	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	1	1	1	1	0	-1
1250	-1	-1	-1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0
1600	-2	-1	-1	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	1	-4
2000	-3	-2	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	0	0	2	1	1	0	-3
2500	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	1	2	1	0	-2
3150	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	1	2	1	1	1	0
4000	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	1	2	1	1	1	0
5000	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	2	2	2	2	1	-3
6300	-2	-1	-1	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	-2	-4
8000	0	0	0	0	1	2	1	1	1	1	1	1	1	1	2	0	-1	-3	-5	-7
10000	-3	-3	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	-1	-3	-5	-7	-9
OCTAVE																				
31.5	-8	-7	-6	-5	-5	-4	-3	-2	-2	-3	-4	-1	-1	0	1	3	3	1	-1	-4
63	-8	-6	-5	-6	-6	-5	-4	-3	-2	-3	-4	-1	5	3	1	1	-1	-4	3	3
125	-6	-4	-0	-0	-1	-1	-1	-1	-1	-1	-1	-1	-1	4	2	2	-1	-4	-7	-7
250	-4	-3	-1	-2	-3	-2	-3	-2	-3	-3	-3	-1	2	2	1	3	4	1	-3	-3
500	-6	-3	1	0	-1	-2	-1	-2	-2	-3	-3	-1	-1	0	3	4	1	-2	-4	-6
1000	-2	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	1	1	1	0	-2	-5
2000	-3	-2	-1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	-2	-5
4000	-3	-2	-1	-1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	-2	-4
8000	-1	-1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-3	-5
OVERALL	-5	-3	-0	-1	-1	-1	-1	-2	-3	-3	-3	-1	2	2	3	2	1	-2	-5	-5

(-- FIGURE 5 OVERALL SOUND PRESSURE LEVEL (DB) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT: AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATIONS: IDLE POWER
650 RPM
BOTH ENGINES, NO JETS

METEOROLOGY: TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 01
16 APR 75
PAGE 13

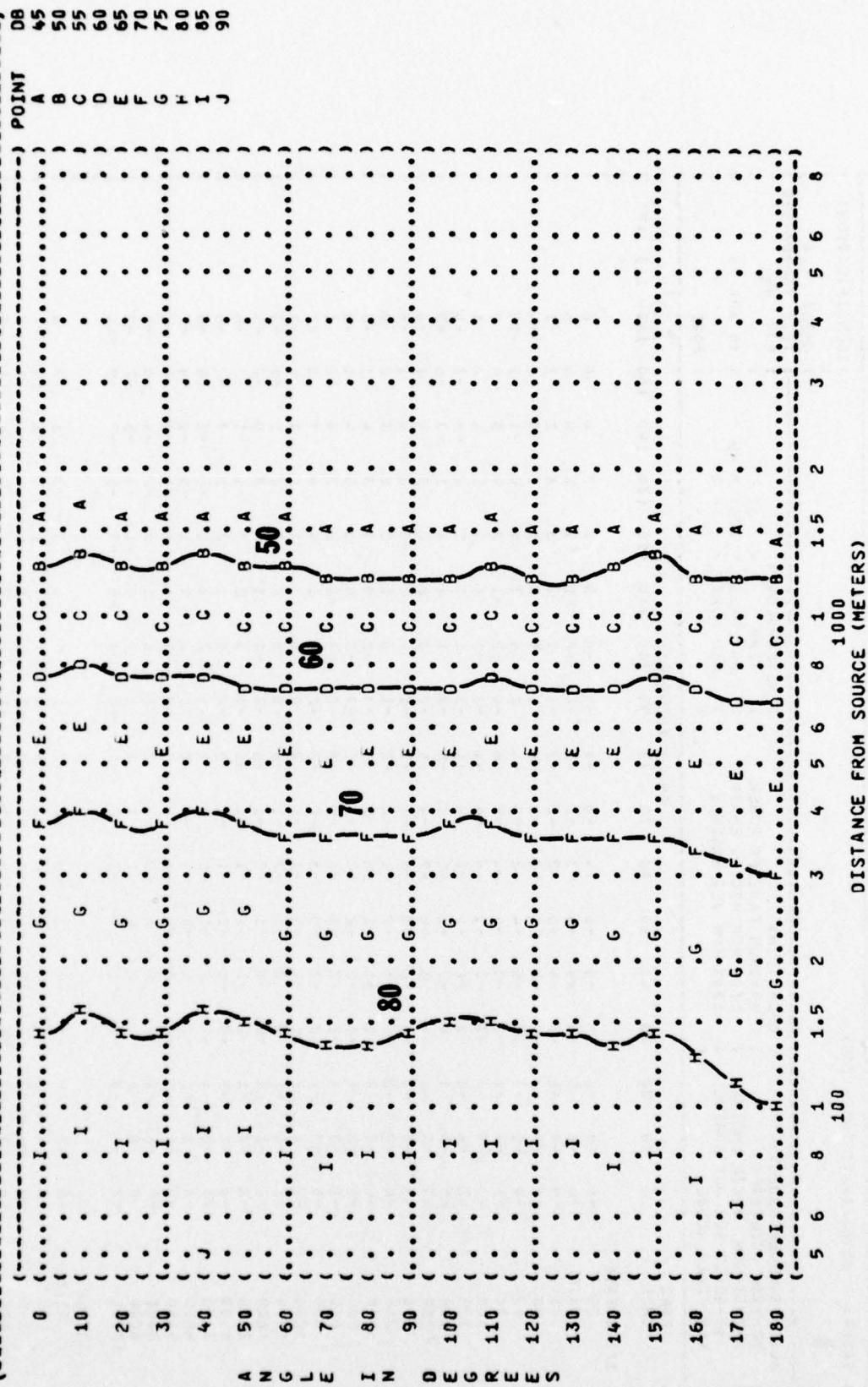


FIGURE 1 OVERALL SOUND PRESSURE LEVEL (OASPL)
EQUAL LEVEL CONTOURS (dB)

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NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

TEST 75-U02-020
RUN 02
16 APR 75
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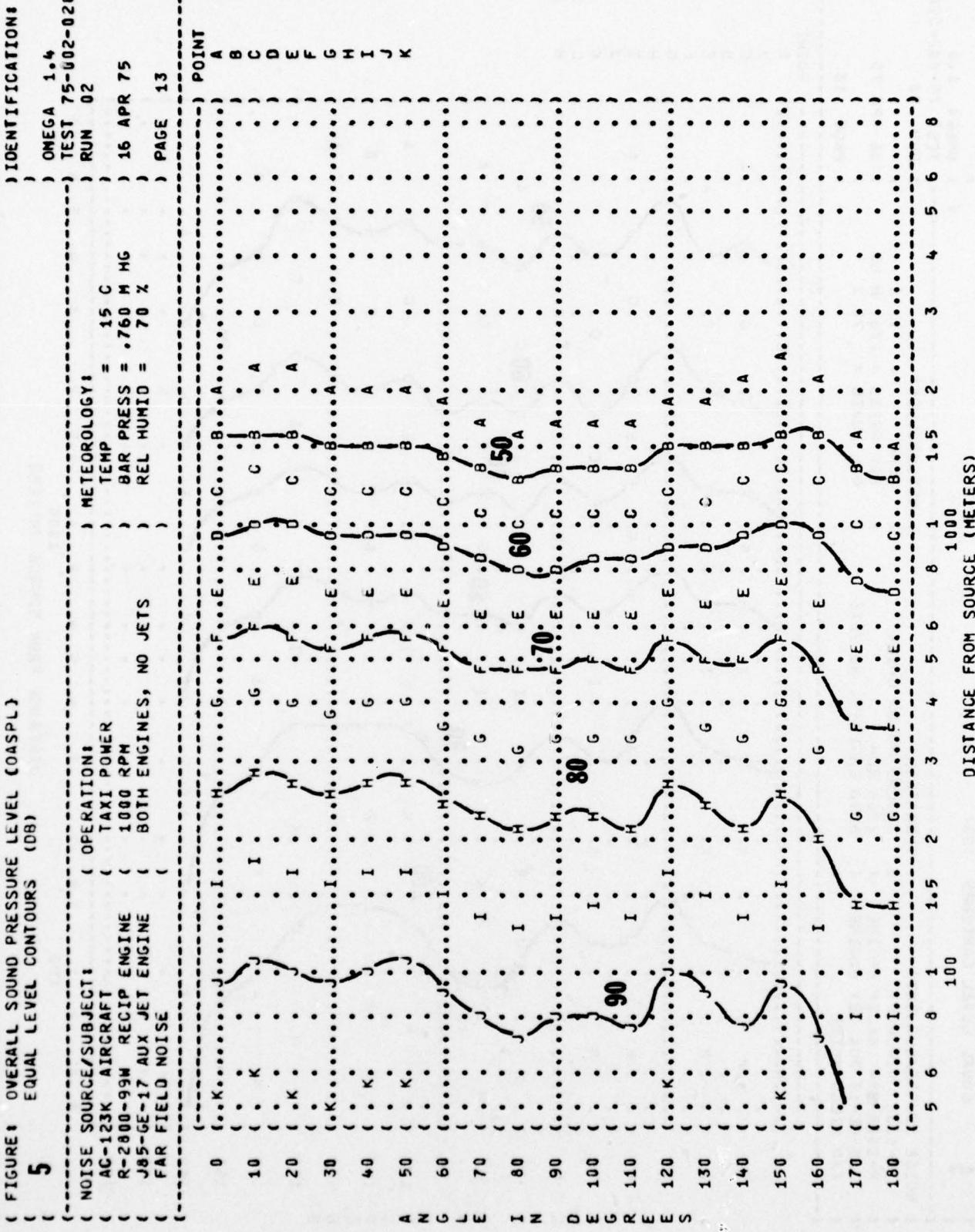


FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
5 EQUAL LEVEL CONTOURS

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-020
RUN 03

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PAGE 13

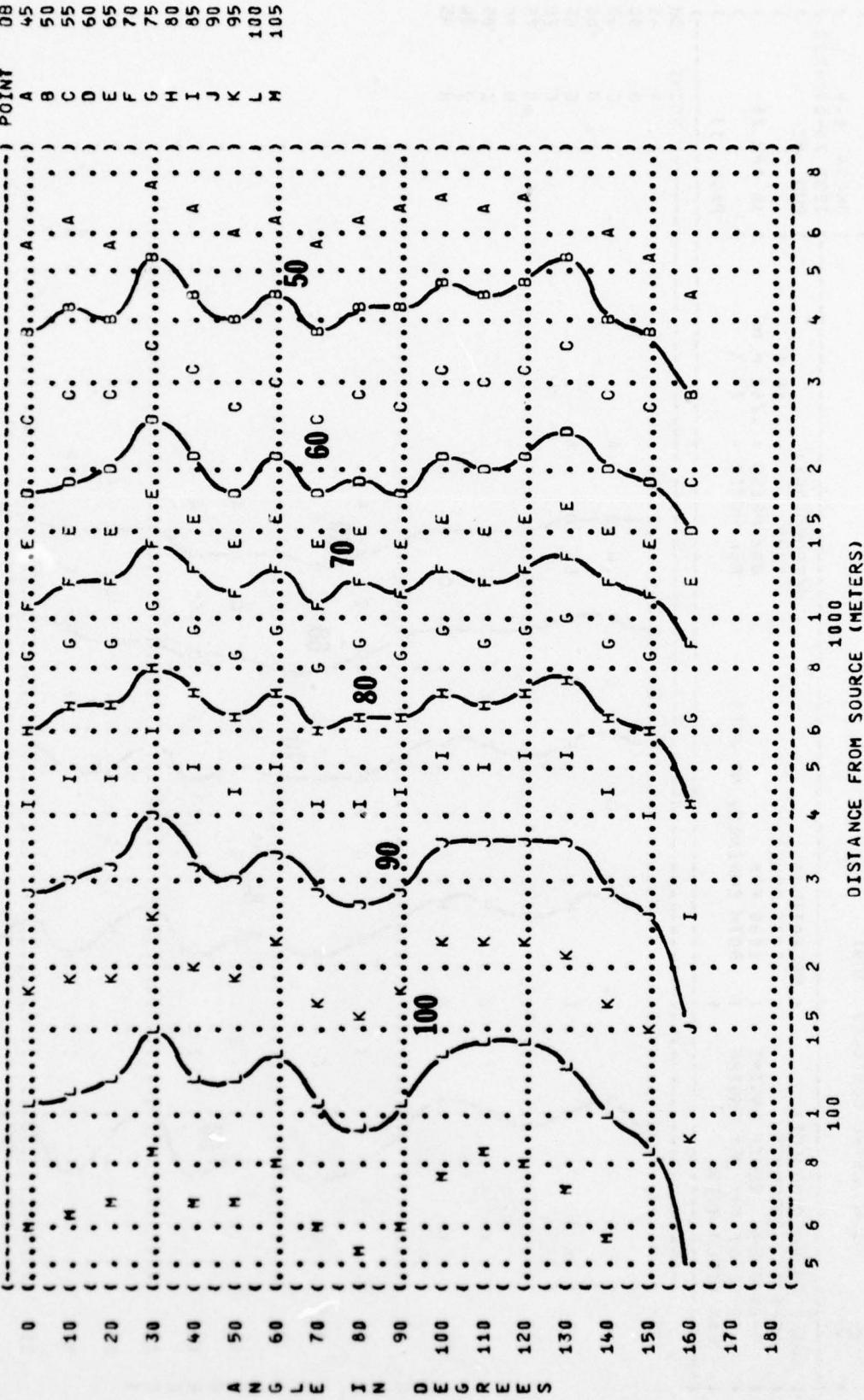


FIGURE 1 OVERALL SOUND PRESSURE LEVEL (OASPL)
E EQUAL LEVEL CONTOURS (dB)

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP E
J85-GE-17 AUX JET E
FAR FIELD NOISE

OPERATION: MAXIMUM RECIP. POWER
2700 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP =
BAR PRESS = .7
REL HUMID =

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Detailed description: This is a contour map showing sound pressure levels (DB) as a function of distance from a source. The horizontal axis represents distance from the source in meters, ranging from 5 to 1000. The vertical axis represents points along a path, ranging from 0 to 115. Contour lines are labeled with values 50, 60, 70, 80, 90, 100, 110, and 115. Points A through O are marked along the top edge, and points N through Z are marked along the bottom edge. The map shows a complex pattern of sound levels, with higher levels generally occurring at greater distances and near the bottom edge.

FIGURE 1 OVERALL SOUND PRESSURE LEVEL (OASPL)
EQUAL LEVEL CONTOURS (DB)

5

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM TAKEOFF POWER
2700 RPM RECIP. ENGINES
100% RPM JET ENGINES

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 05
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PAGE 13

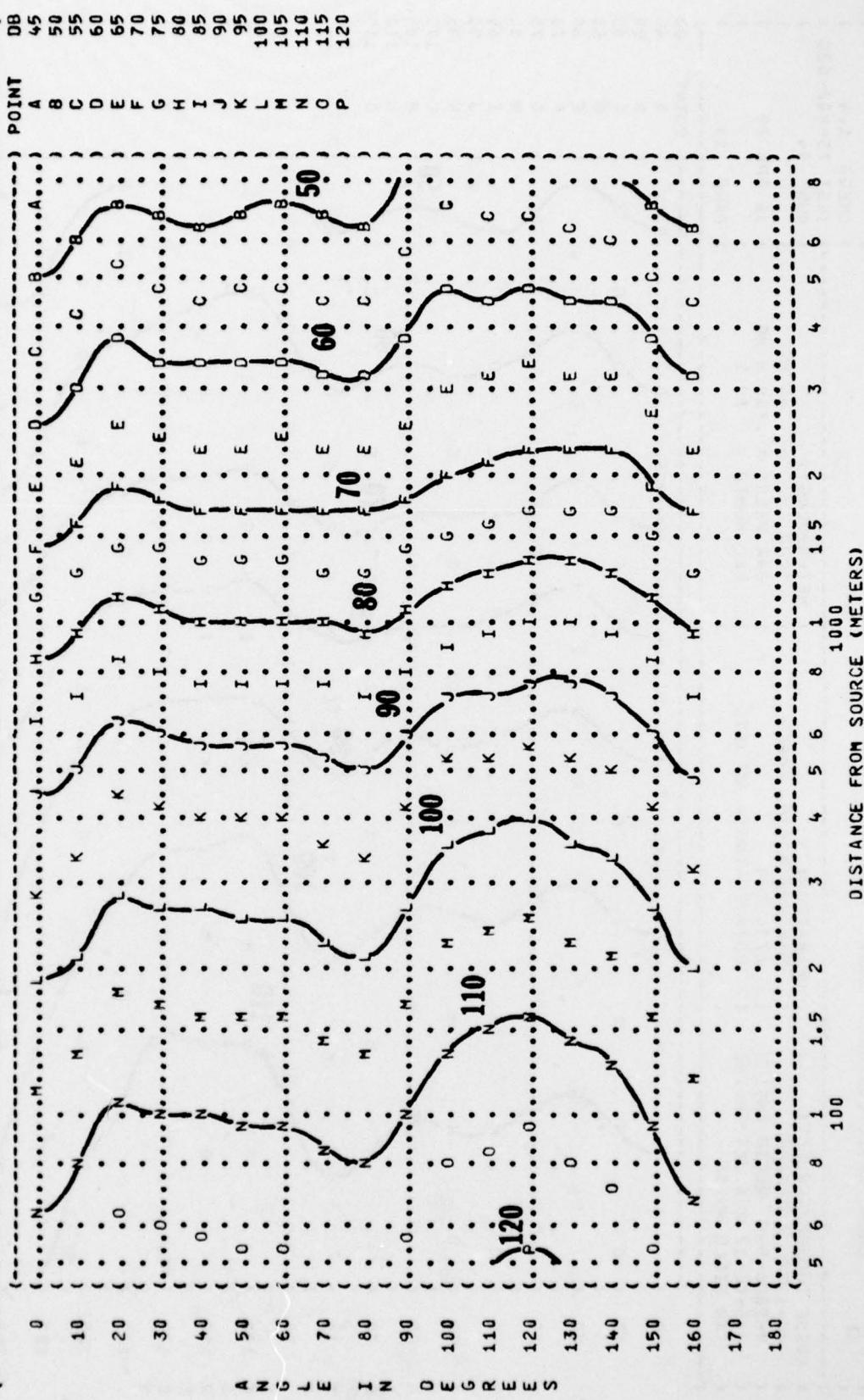


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
6 EQUAL LEVEL CONTOURS (OBC)

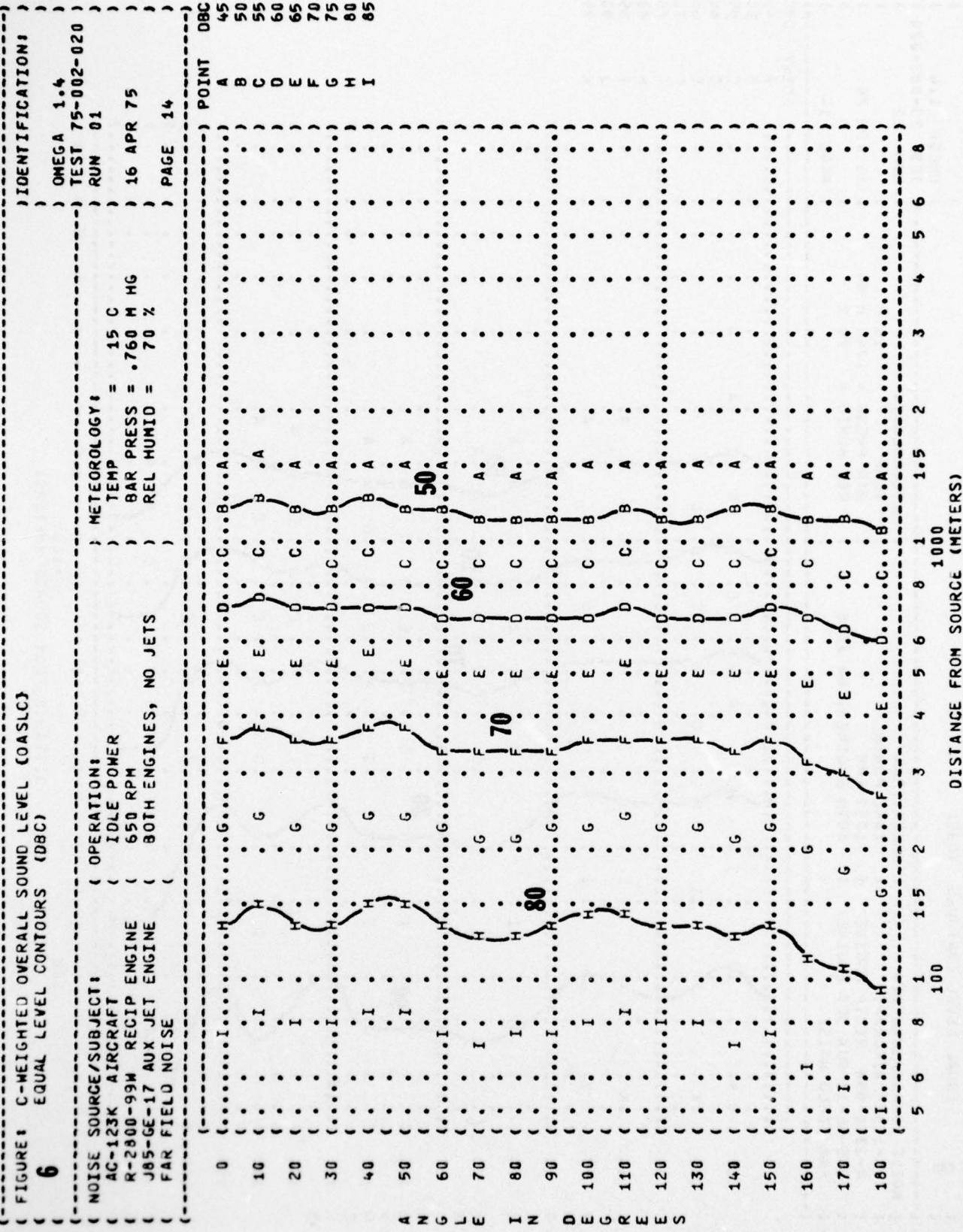


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
6 EQUAL LEVEL CONTOURS (DBC)

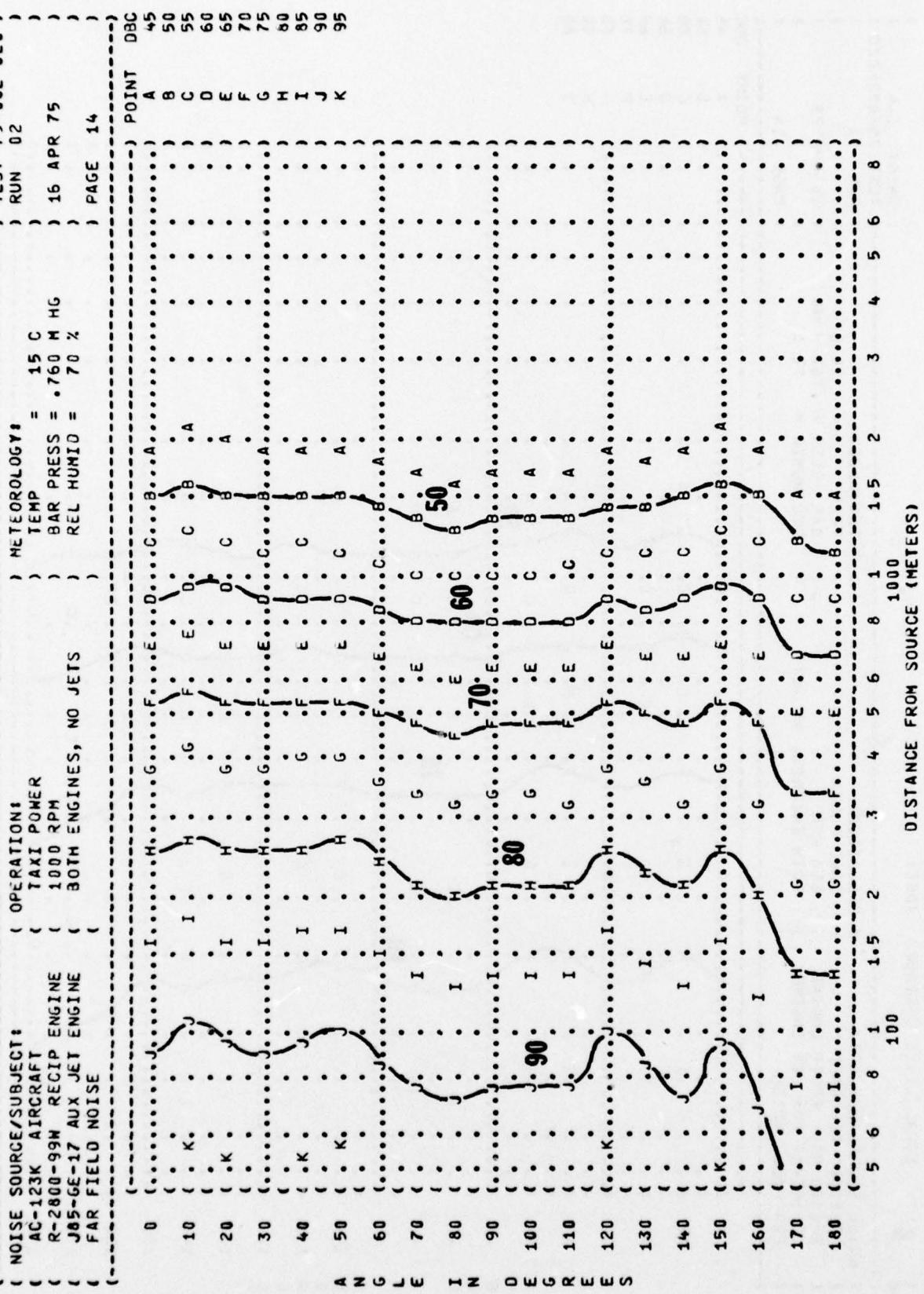


FIGURE 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT :
AC-123K AIRCRAFT
R-2800-99W RECIP EN
J85-GE-17 AUX JET EN
FAR FIELD NOISE

OPERATIONS:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JET

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 HG
REL HUMID = 70 %
RUN 03
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FIGURE 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
 EQUAL LEVEL CONTOURS (DBC)

6

NOISE SOURCE/SUBJECT		OPERATIONS		METEOROLOGY	
AC-123K AIRCRAFT		GROUND POWER CHECK		TEMP = 15 C	
R-2800-99W RECIP ENGINE		2200 RPM		BAR PRESS = .760 M HG	
J05-GE-17 AUX JET ENGINE		BOTH ENGINES, NO JETS		REL HUMID = 70 %	
FAR FIELD NOISE					

) IDENTIFICATION:
) OMEGA 1.4
) TEST 75-002-020
) RUN 03
) PAGE 14

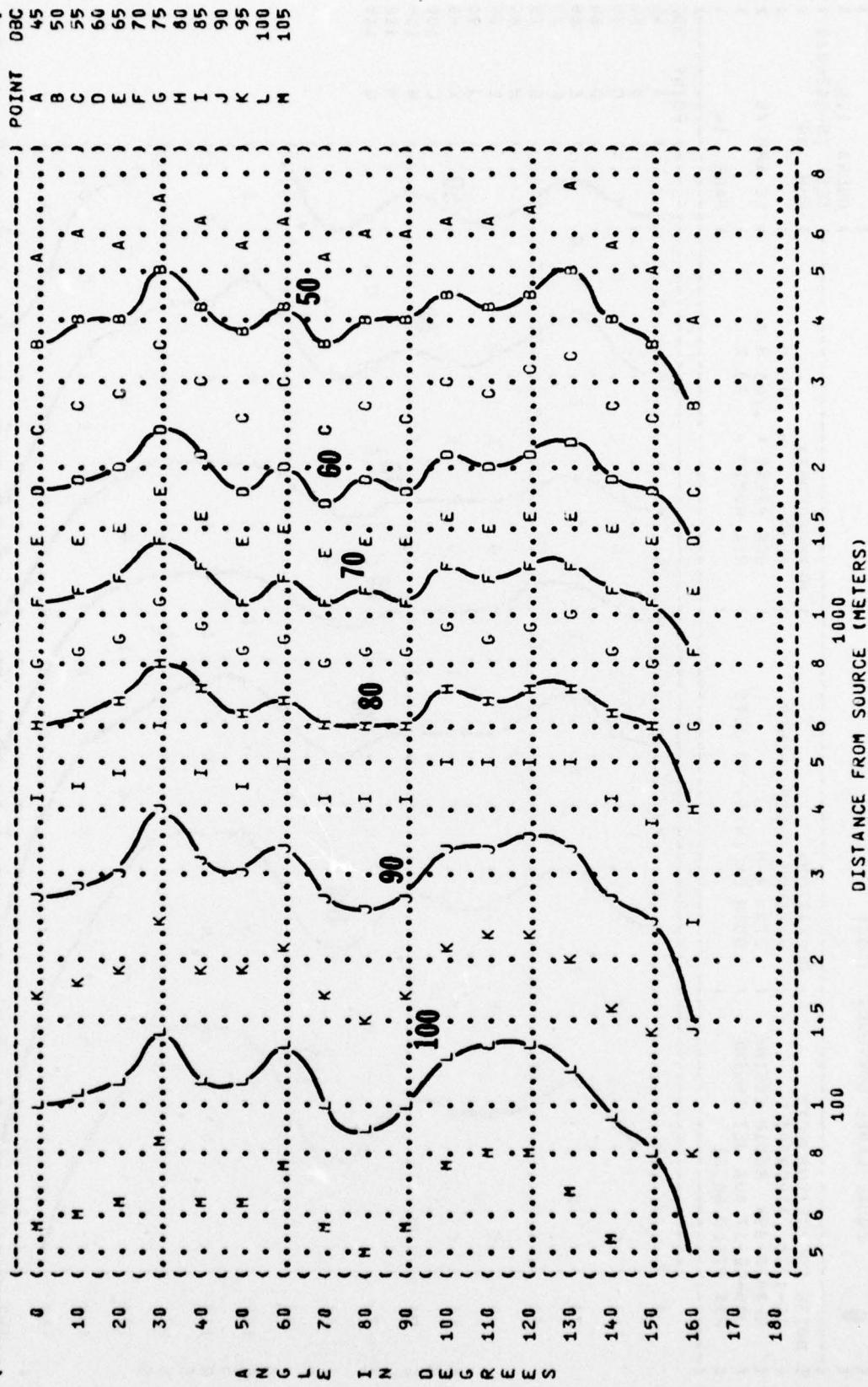


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
6
 EQUAL LEVEL CONTOURS (OASLC)

NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

OPERATION:
 MAXIMUM RECIP. POWER
 2700 RPM
 BOTH ENGINES, NO JETS

METEOROLOGY:
 TEMP = 15°C
 BAR PRESS = 760 M HG
 REL HUMID = 70%

TEST 75-002-020
 RUN 04
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IDENTIFICATION:

OMEGA 1-4

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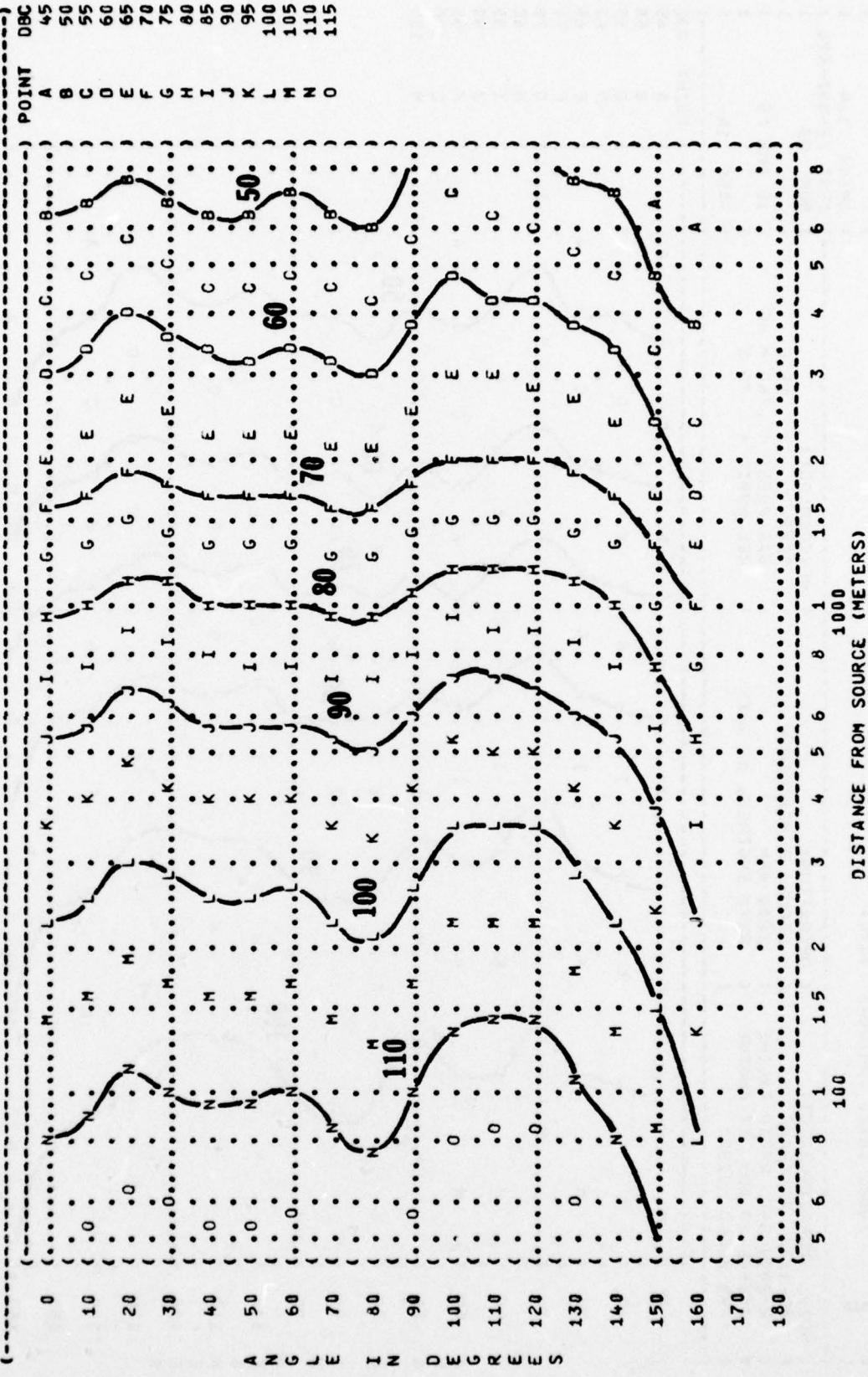


FIGURE 1 C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
6 EQUAL LEVEL CONTOURS

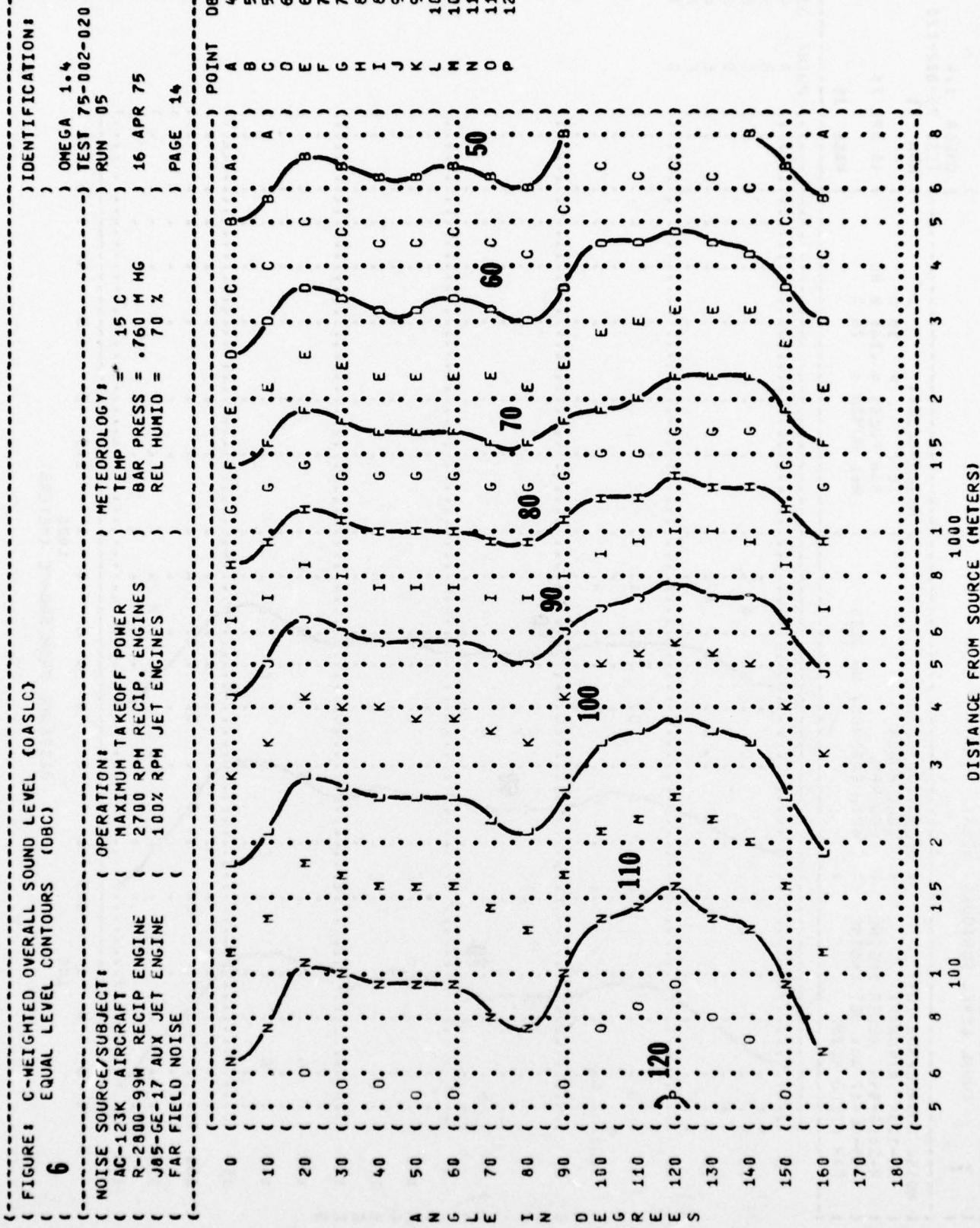


FIGURE 1 A-WEIGHTED OVERALL SOUND LEVEL (DBA)
7 EQUAL LEVEL CONTOURS (DBA)

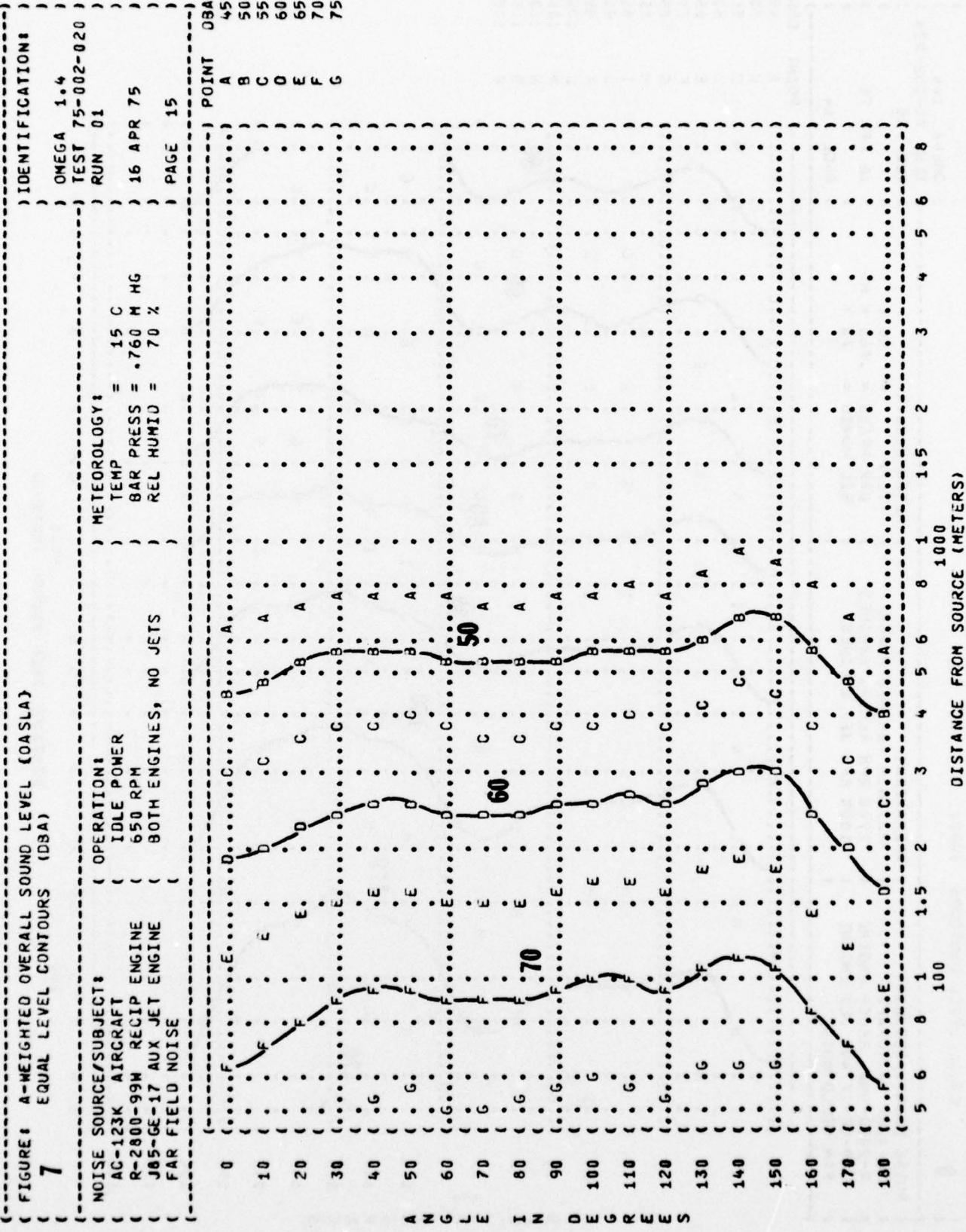


FIGURE 1 A-WEIGHTED OVERALL SOUND LEVEL (DBA)
EQUAL LEVEL CONTOURS (DBA)

7

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85--GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

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PAGE 15

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-020

RUN 03

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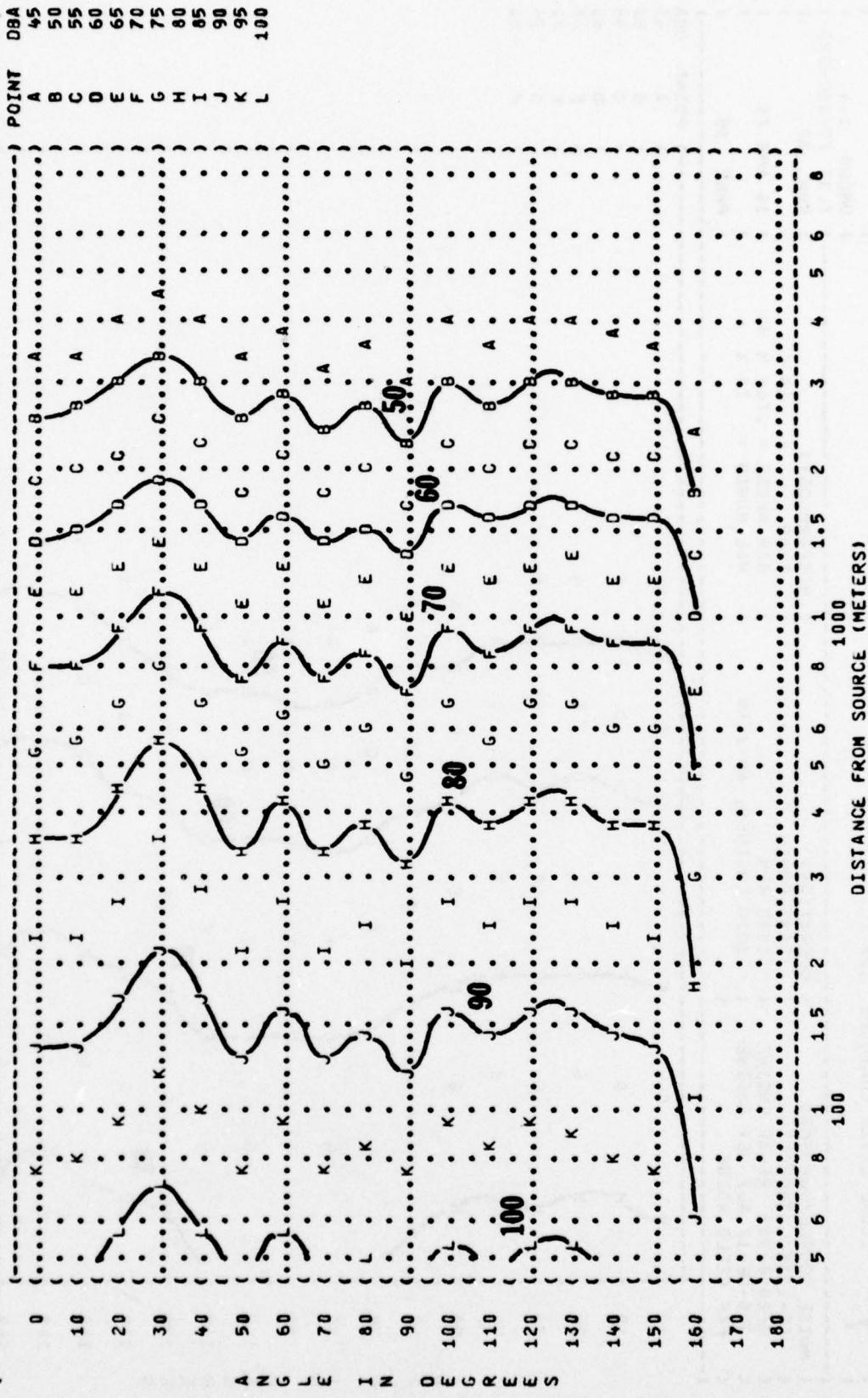


FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (DBA)
EQUAL LEVEL CONTOURS (DBA)

7

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM RECIP. POWER
2700 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 MM HG
REL HUMID = 70 %

TEST 75-002-020
RUN 04
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IDENTIFICATION:

OMEGA 1.4

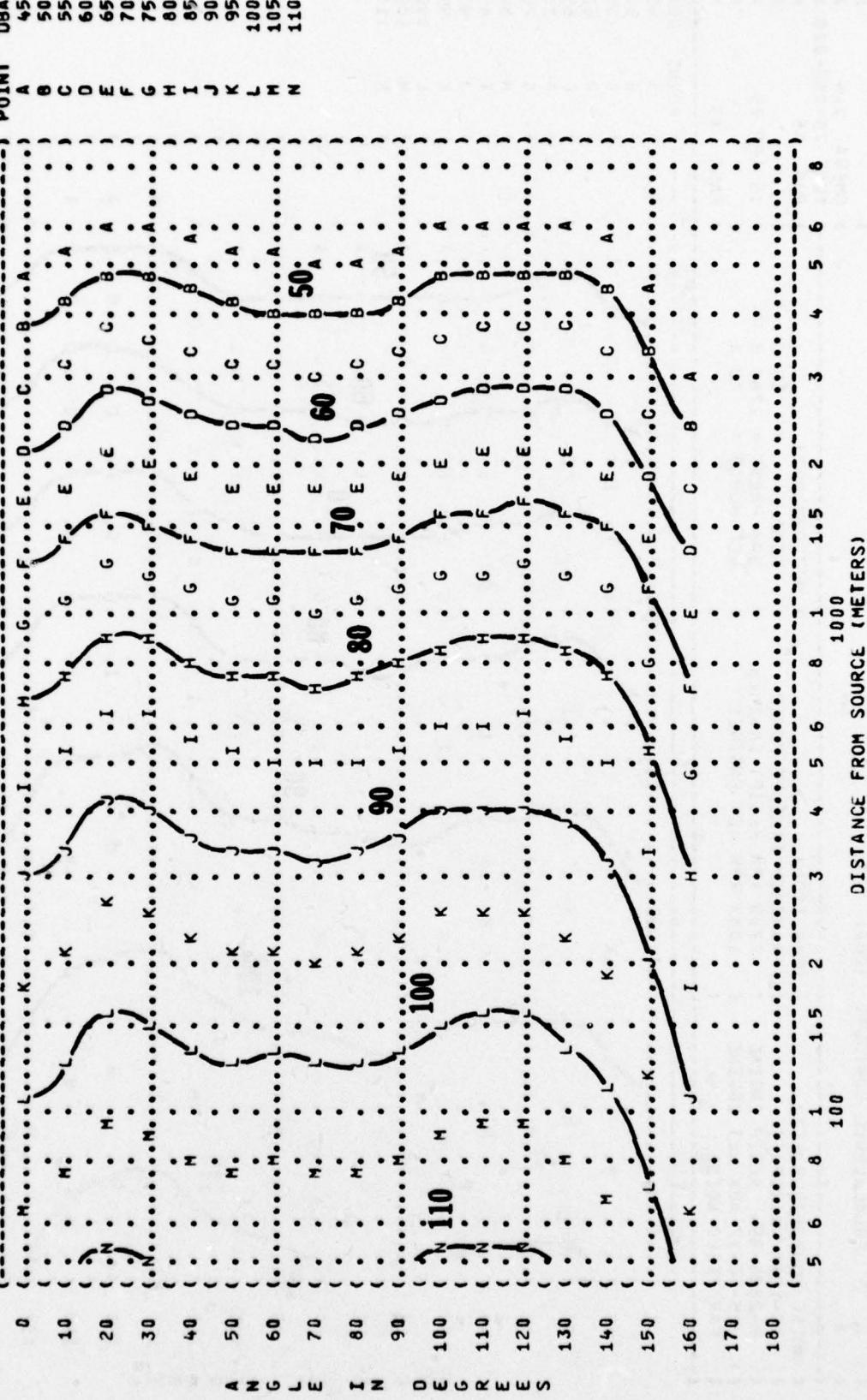


FIGURE 1 A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
EQUAL LEVEL CONTOURS (OBA)
7

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM TAKEOFF POWER
2700 RPM RECIP. ENGINES
100% RPM JET ENGINES

METEOROLOGY:
TEMP = 15°C
BAR PRESS = 760 MM HG
REL HUMID = 70%

TEST 75-002-020

RUN 05

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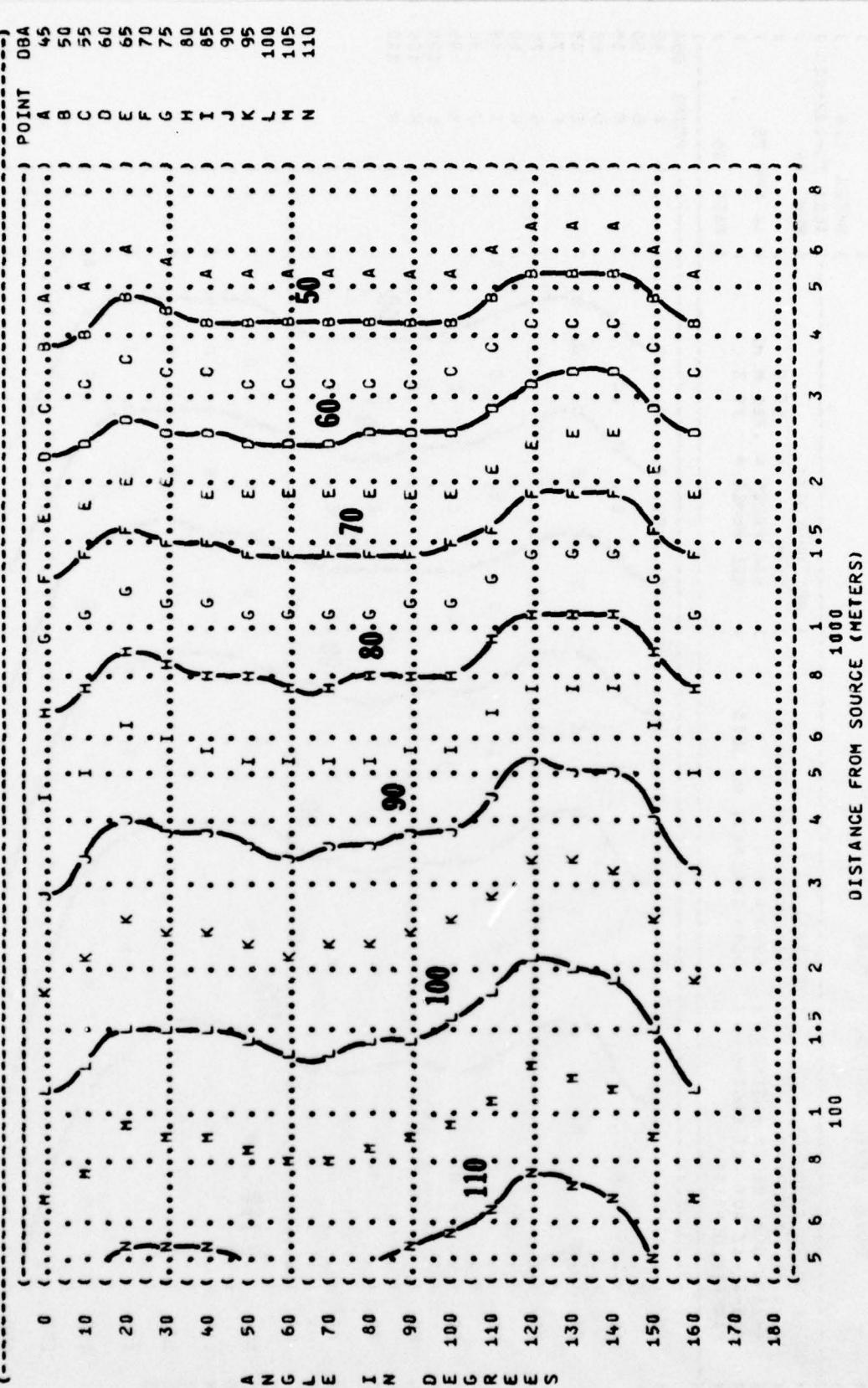


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNL8)

IDENTIFICATIONS:

OMEGA 1.4

TEST 75-002-020

RUN 02

16 APR 75

16

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

OPERATION:

TAXI POWER

1000 RPM

BOTH ENGINES, NO JETS

NOISE SOURCE/SUBJECT:

AC-123K AIRCRAFT

R-2800-99W RECIP ENGINE

J85-GE-17 AUX JET ENGINE

FAR FIELD NOISE

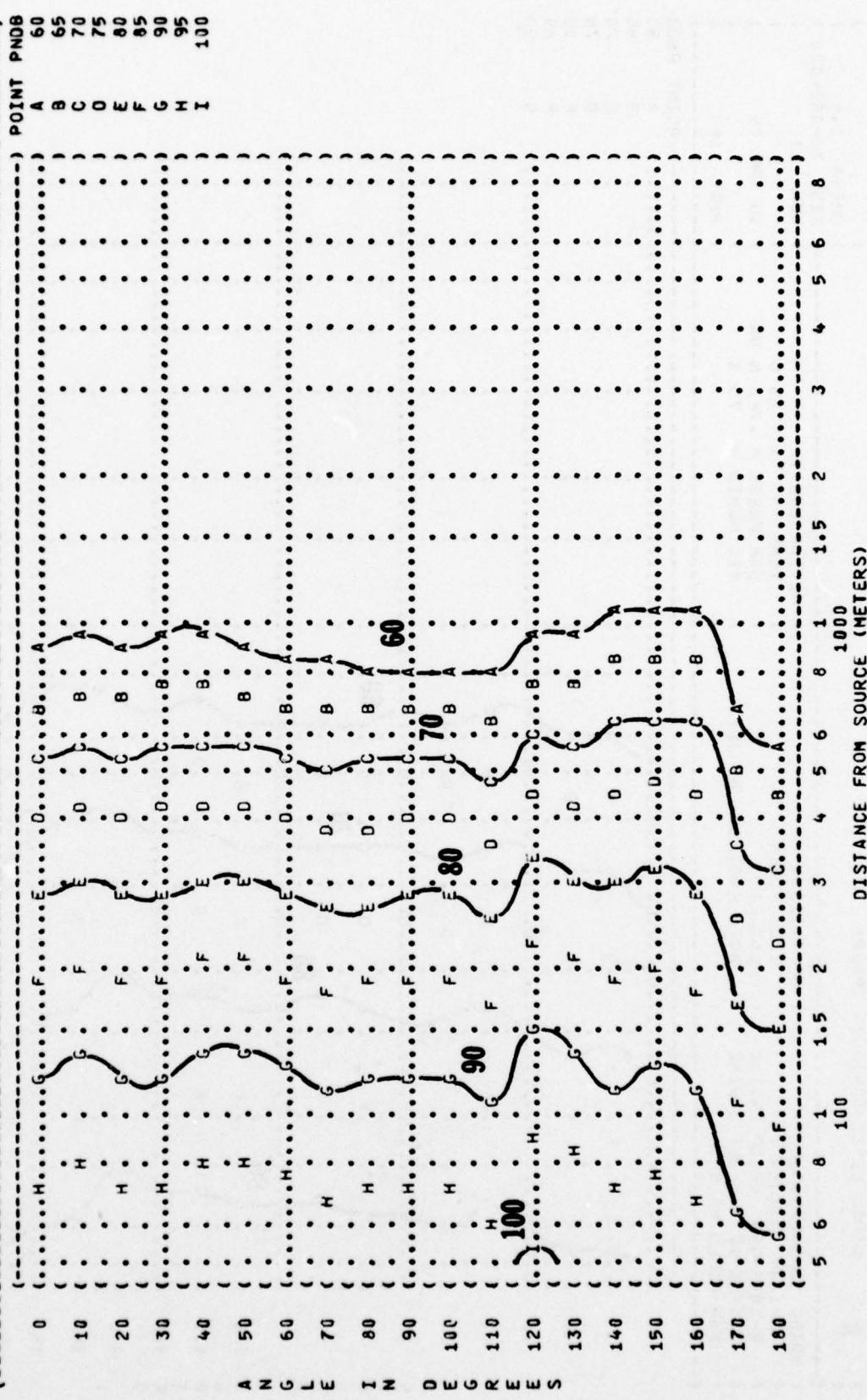


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

8

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATIONS
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

TEST 75-002-020
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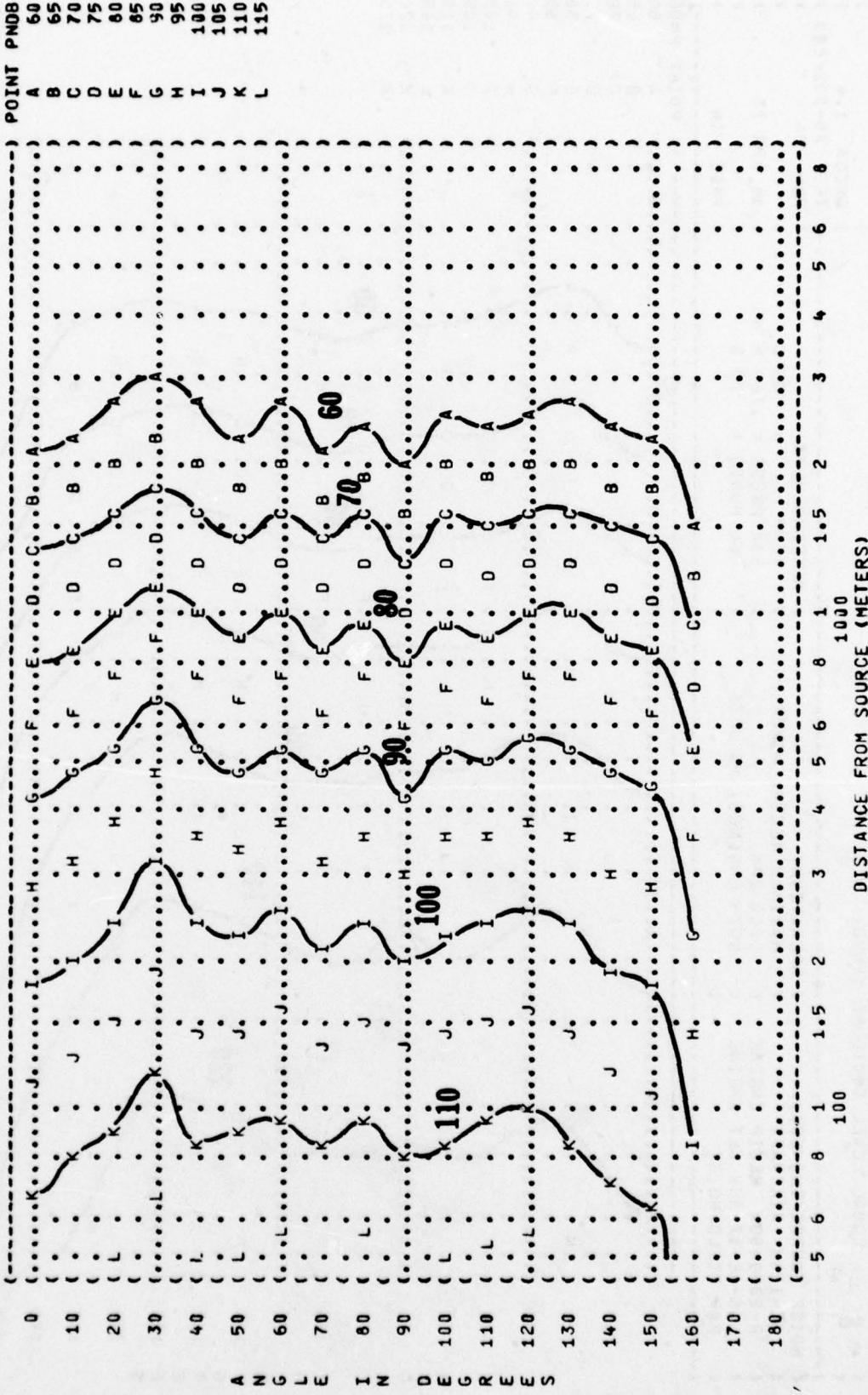


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATIONS

EQUAL LEVEL CONTOURS (PN08)

NOISE	SOURCE/SUBJECT*	OPERATION
AC-123K	AIRCRAFT	MAX
R-2800-99W	RECIP ENGINE	270
J85-GE-17	AUX JET ENGINE	BOT
FAR FIELD NOISE		

METEOROLOGY: TEMP = 15 C
BAR PRESS = 760 MG
REL HUMID = 70 %

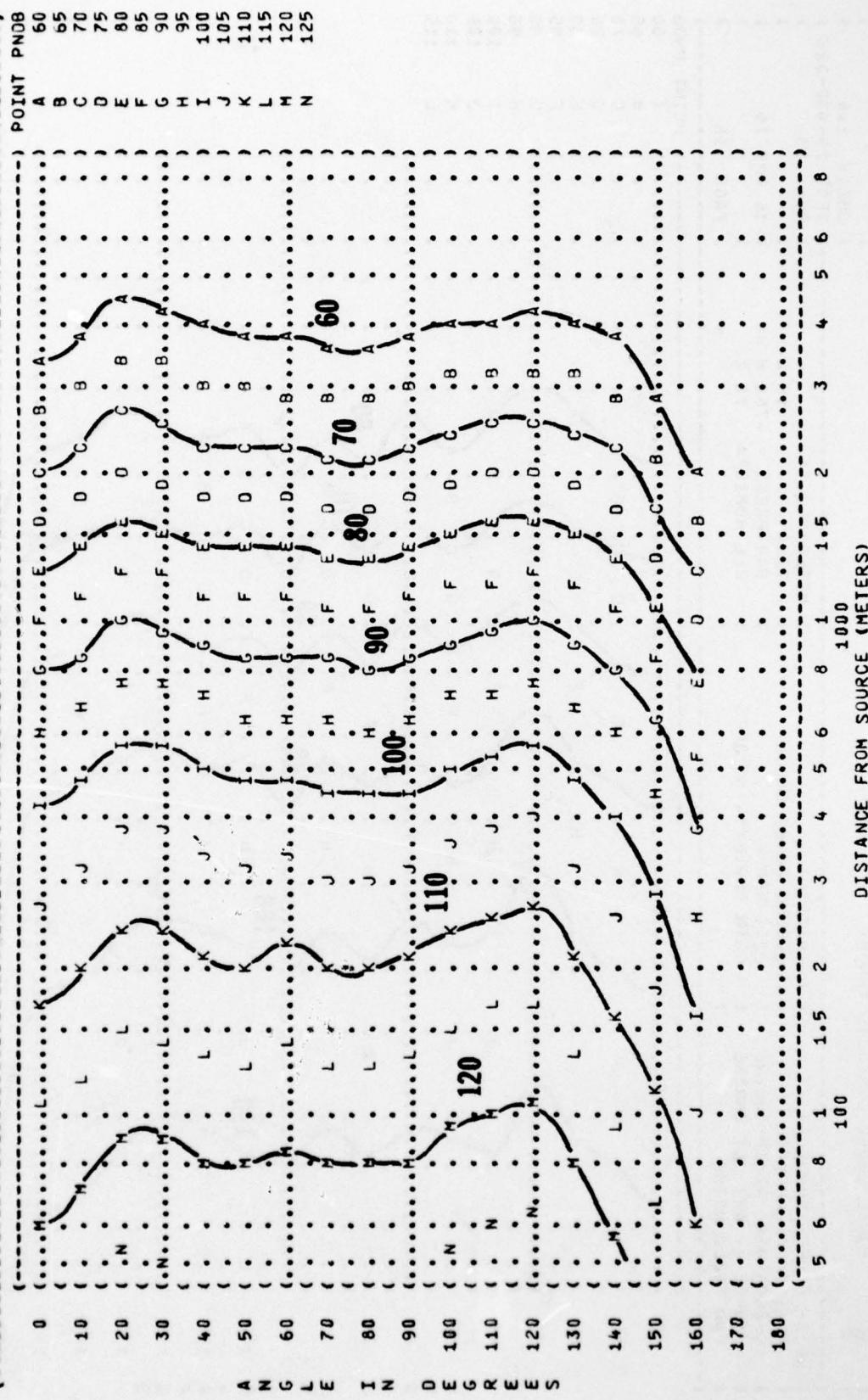


FIGURE 8 EQUAL LEVEL CONTOURS (PNdB)

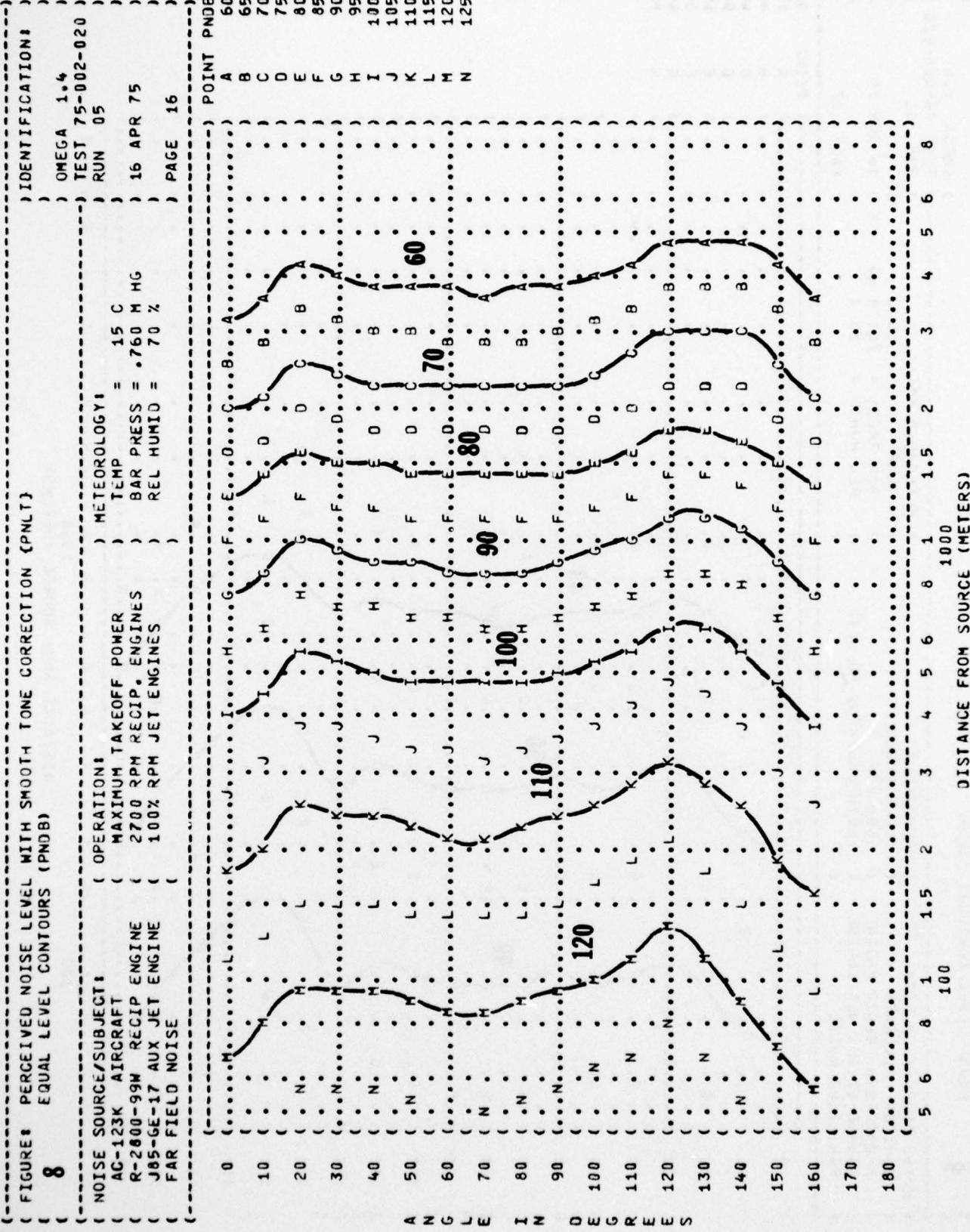


FIGURE 9
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

NUISSE SOURCE/SUBJECT: AC-123K AIRCRAFT
R-2800-39W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATIONS: IDLE POWER
650 RPM
BOTH ENGINES, NO JETS

METEOROLOGY: TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 01

16 APR 75

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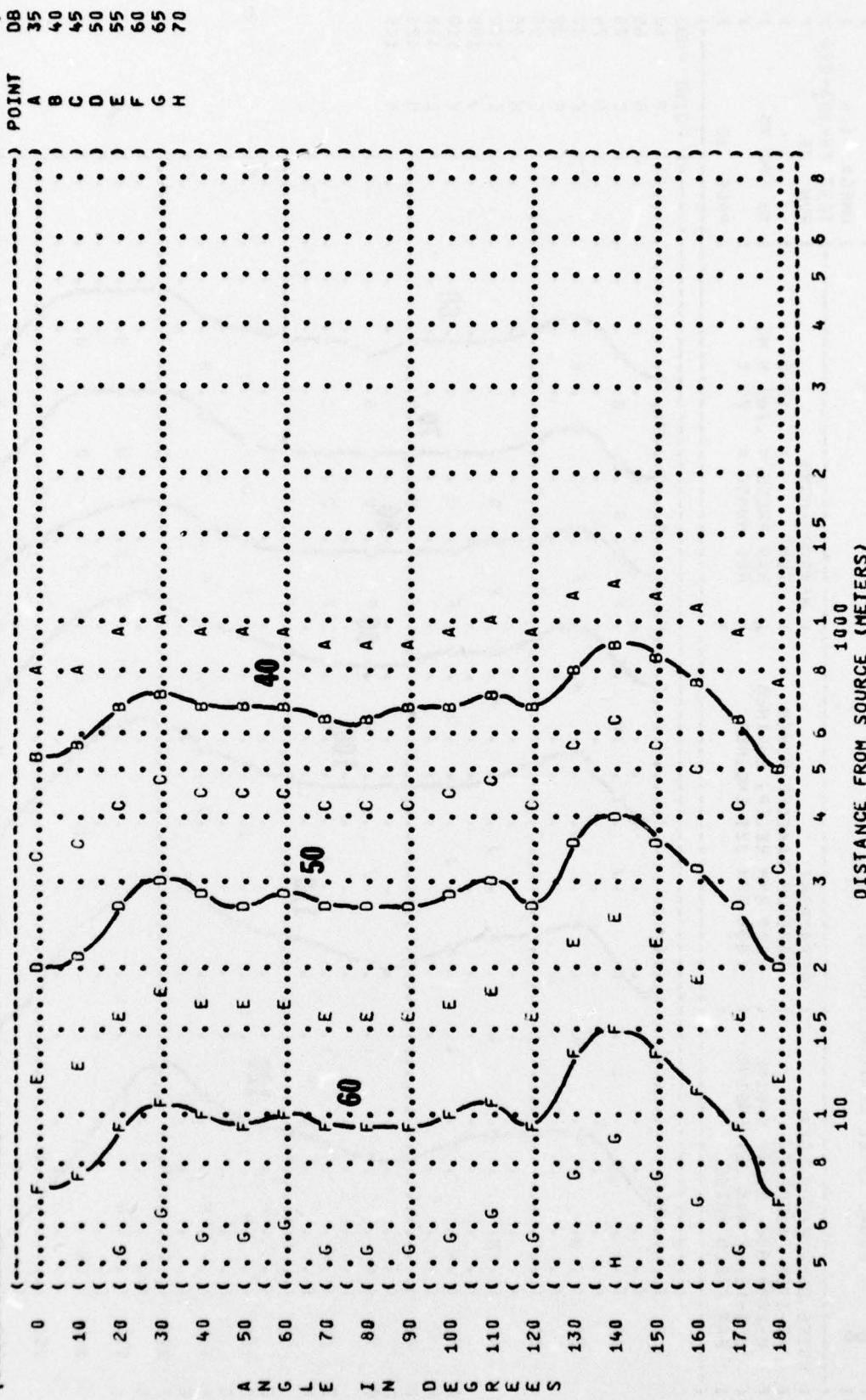


FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

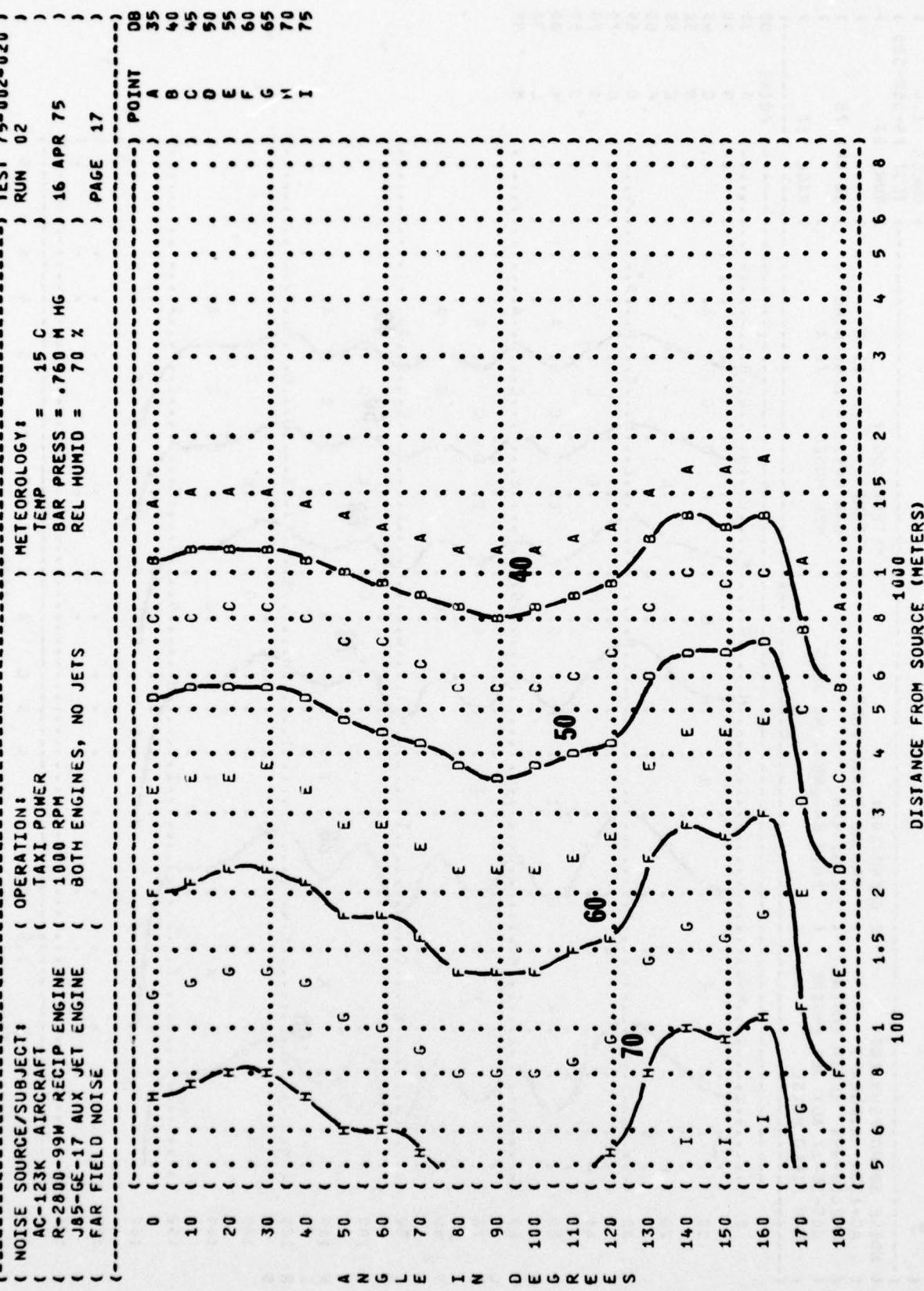


FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

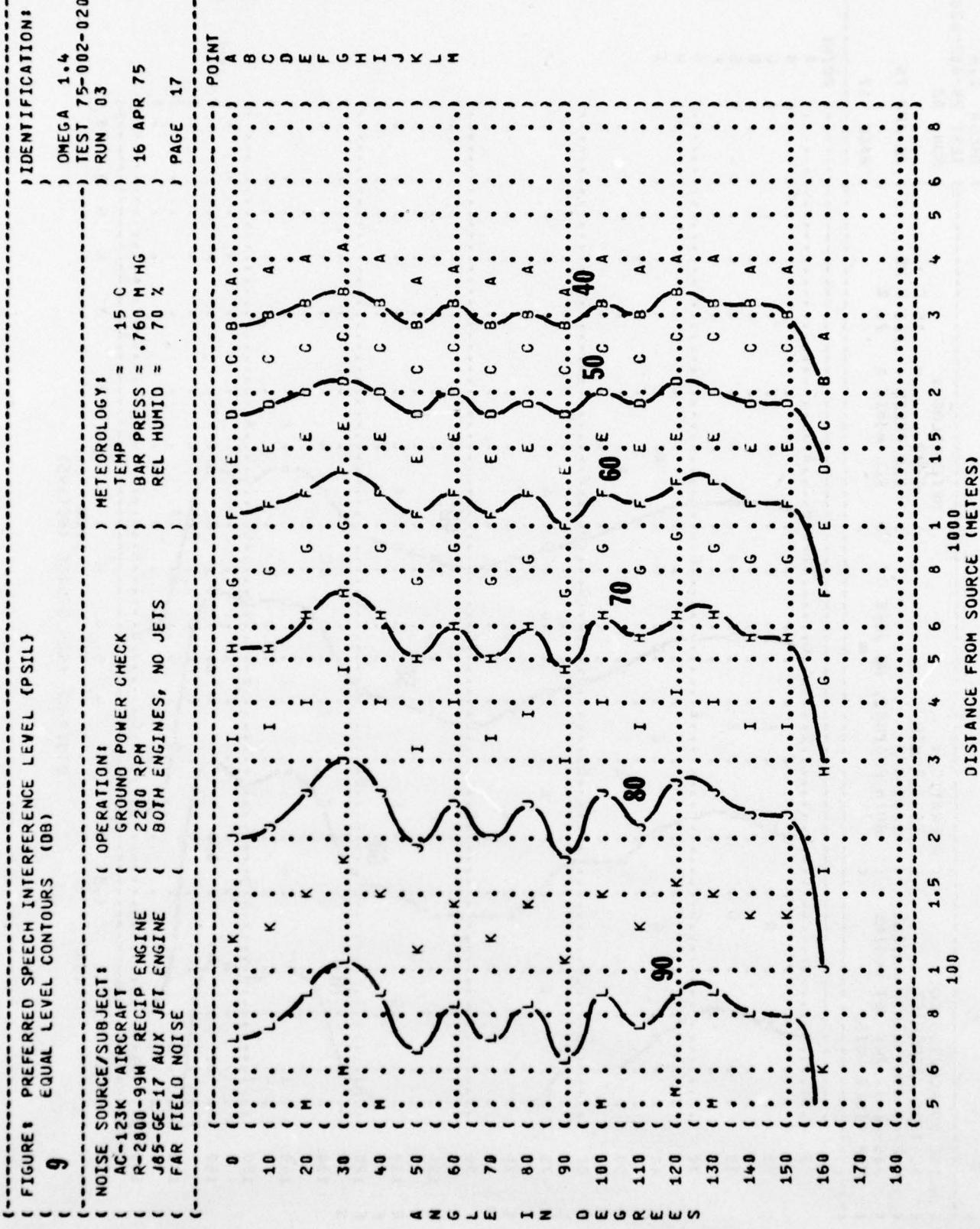
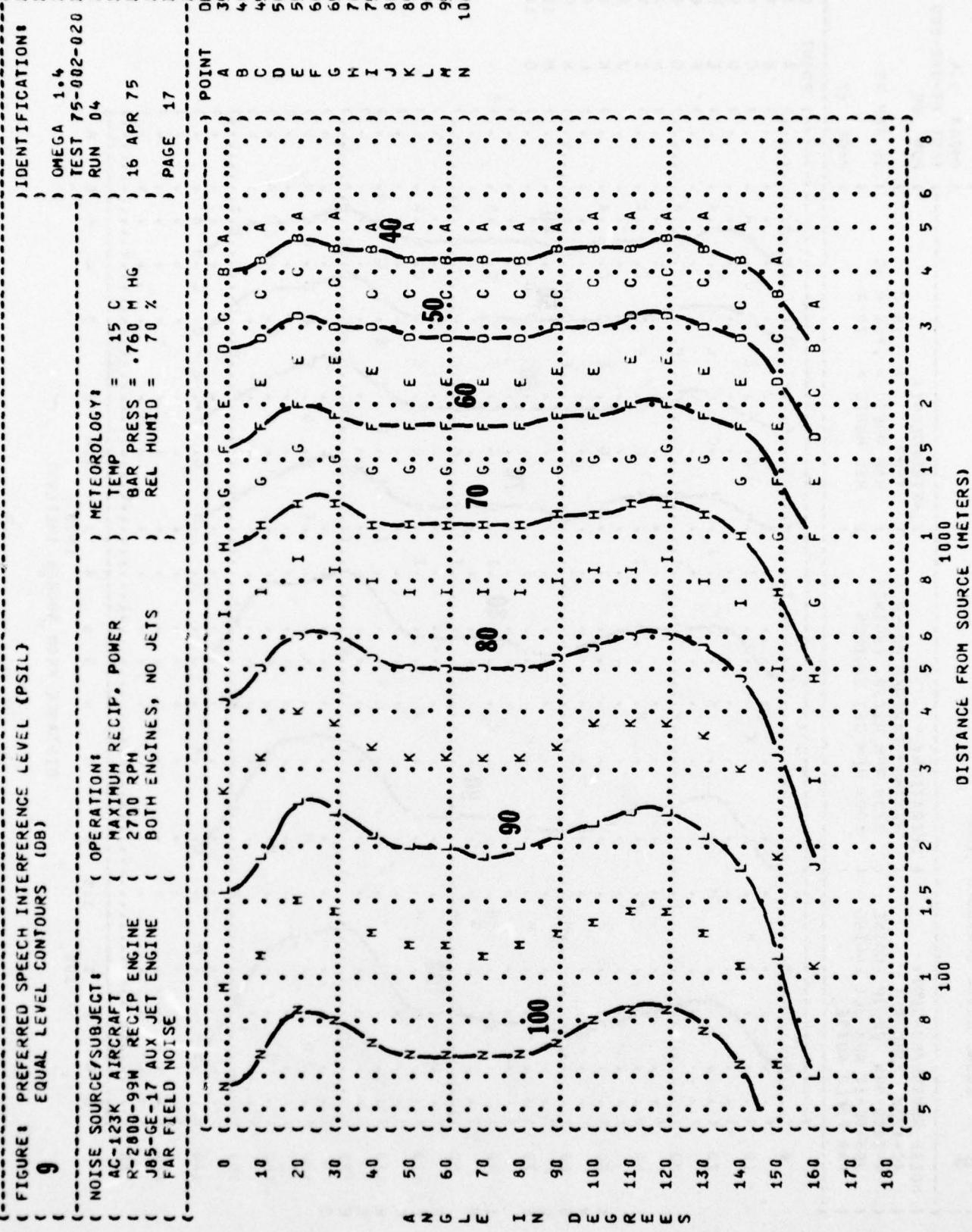
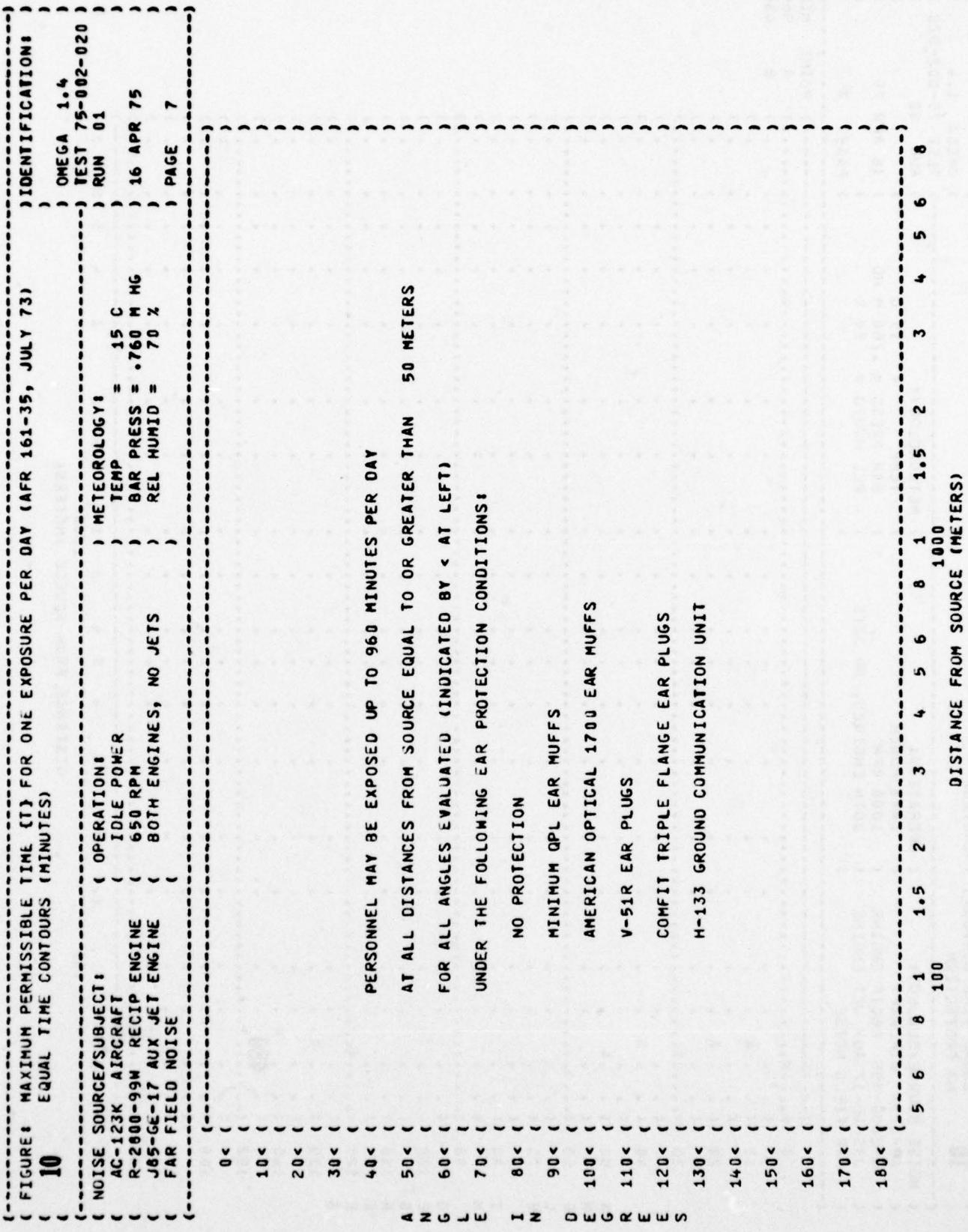


FIGURE 1 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
9 EQUAL LEVEL CONTOURS (DB)





10

FIGURE 1 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
 EQUAL TIME CONTOURS (MINUTES)
 NO PROTECTION

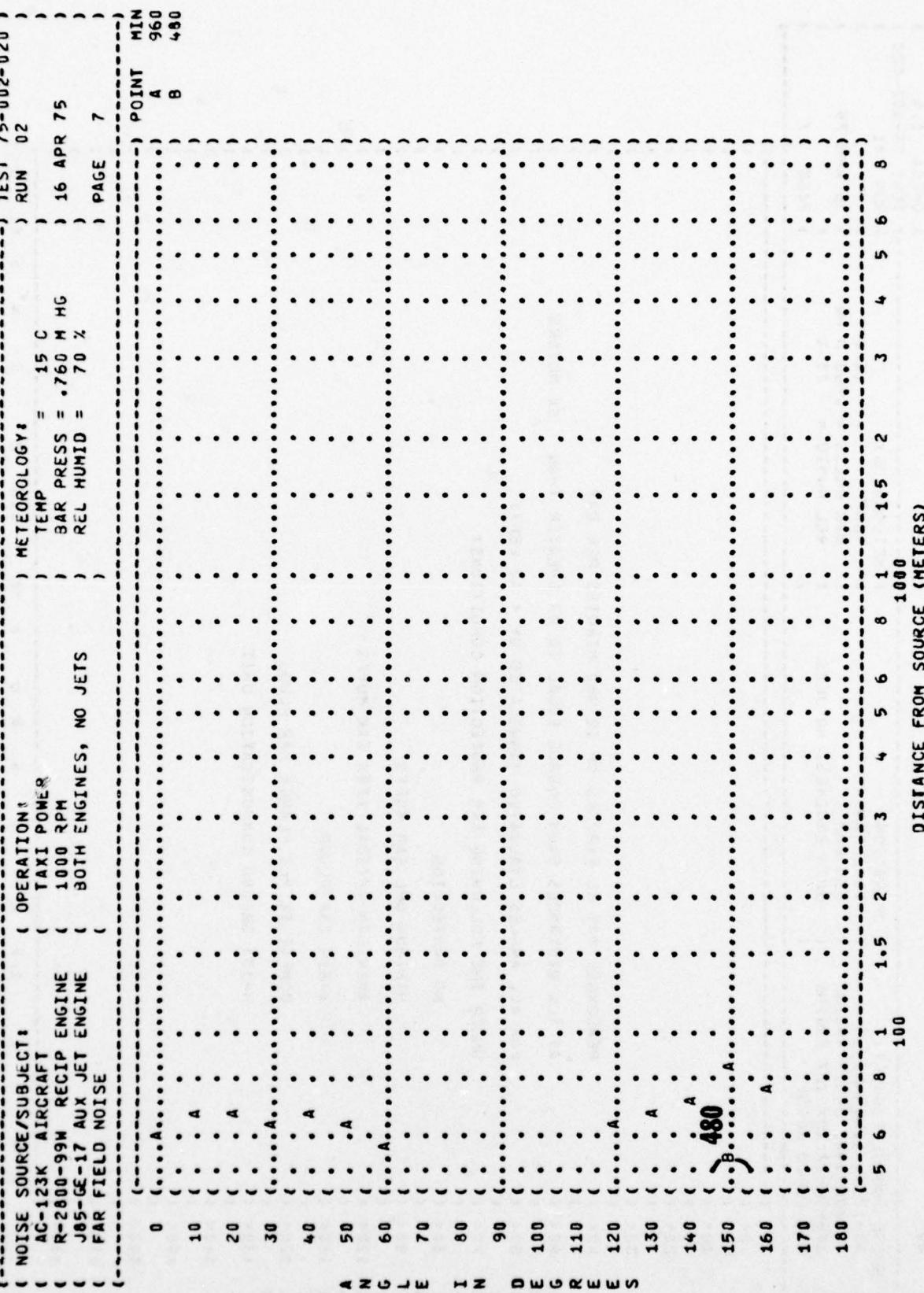
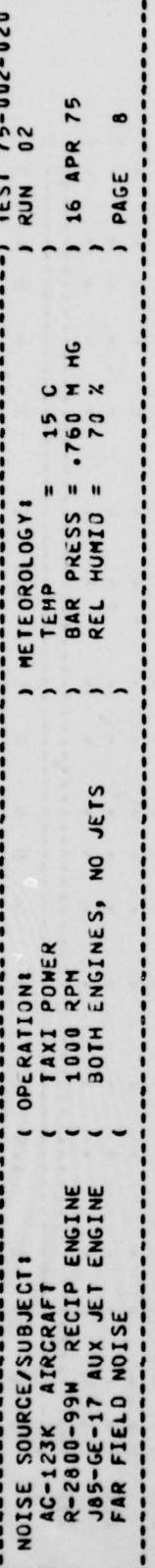


FIGURE 4 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
10 EQUAL TIME CONTOURS (MINUTES)



NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY
 AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 50 METERS
 FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)
 UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:
 1. MINIMUM QPL EAR MUFFS
 2. AMERICAN OPTICAL 1700 EAR MUFFS
 3. V-51R EAR PLUGS
 4. COMFIT TRIPLE FLANGE EAR PLUGS
 5. H-133 GROUND COMMUNICATION UNIT

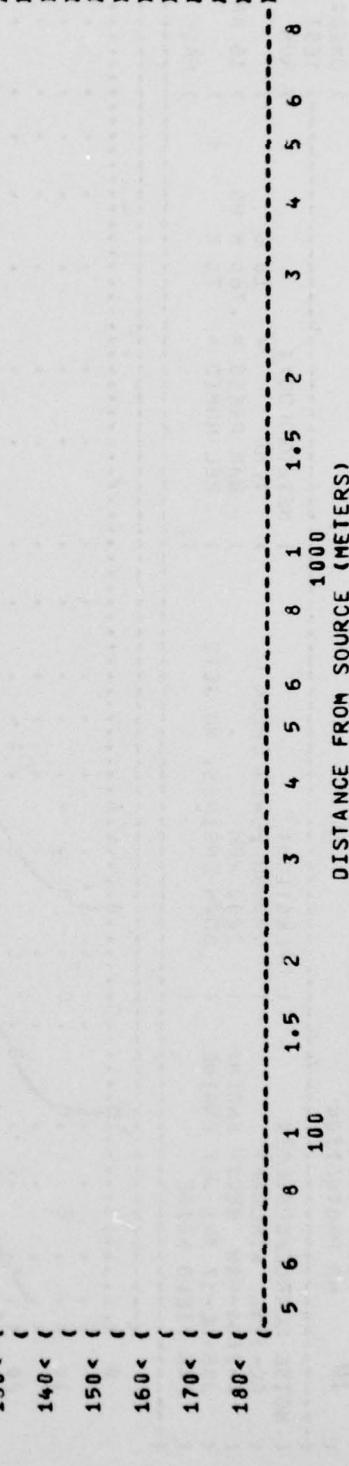


FIGURE 10 EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

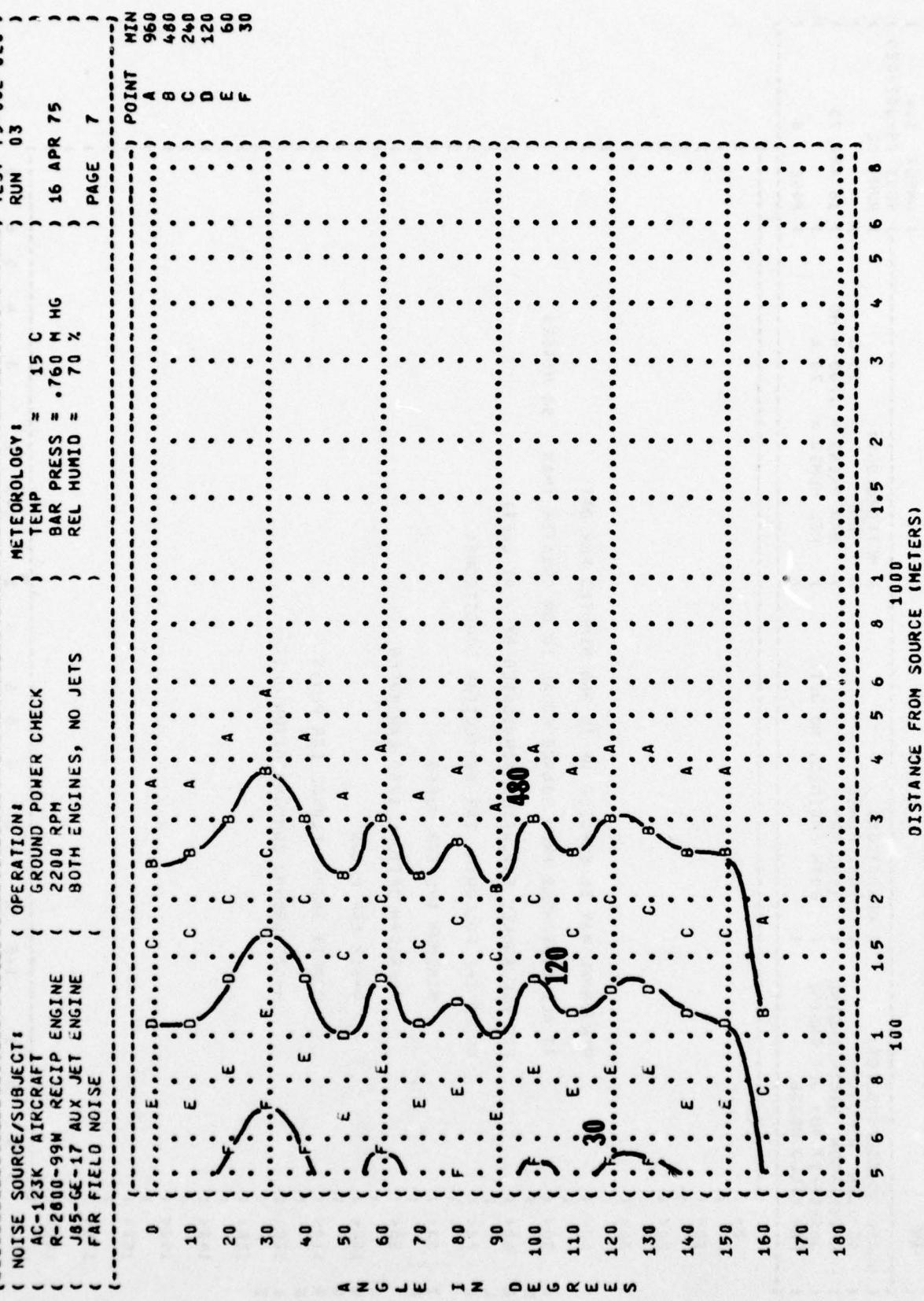


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

10

EQUAL TIME CONTOURS (MINUTES)

MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT:

AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

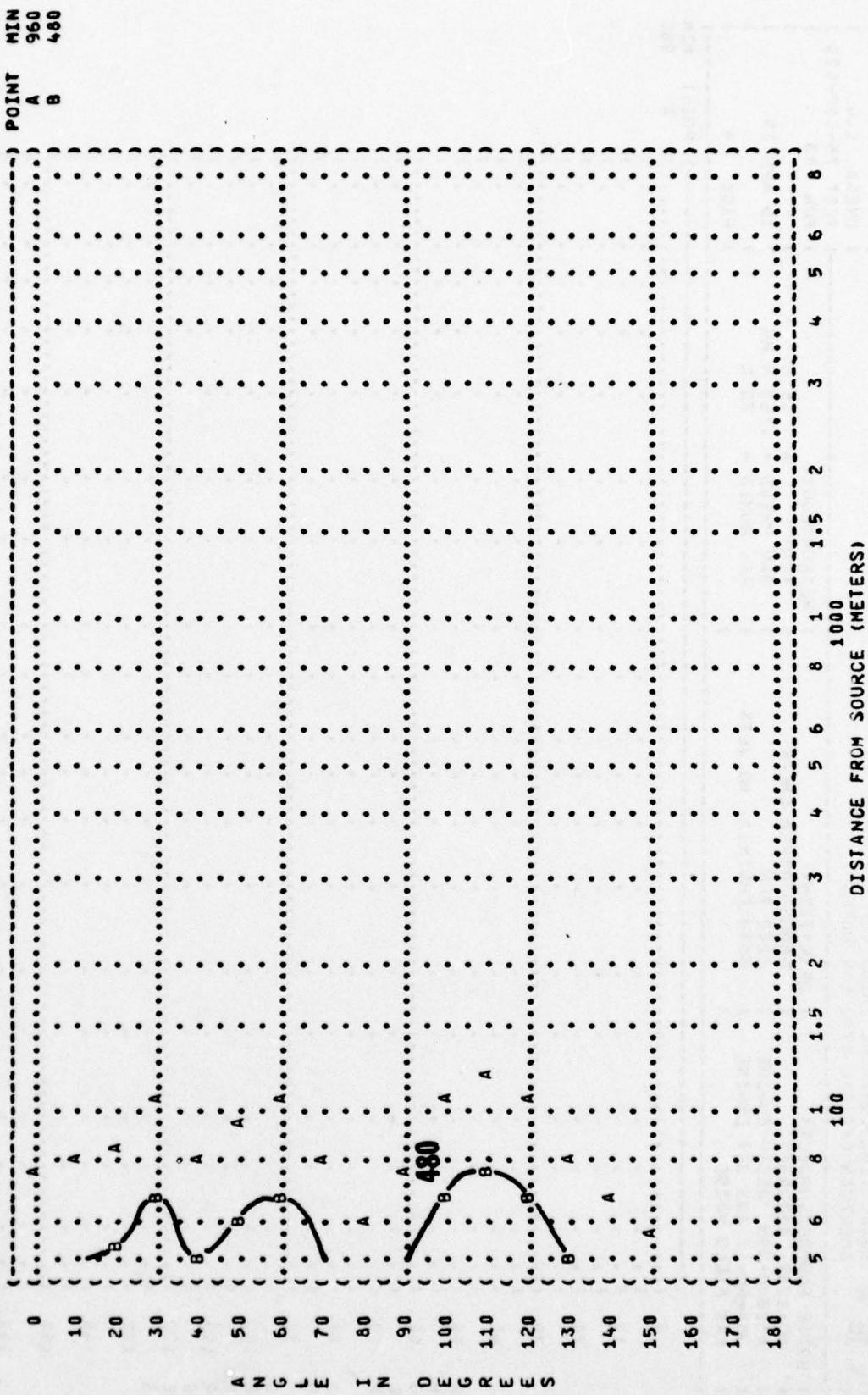
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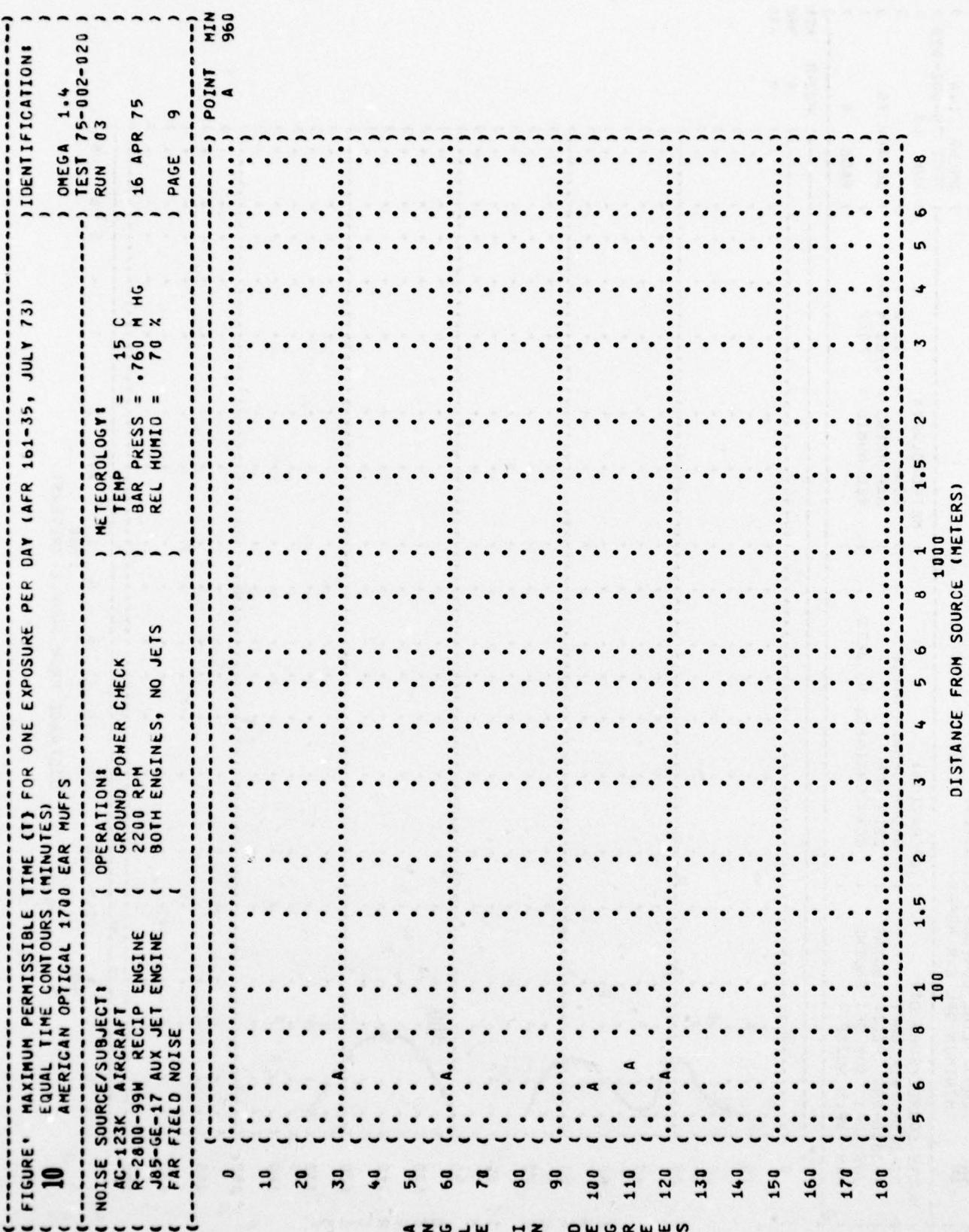
OMEGA 1⁴
TEST 75-002-020

RUN 03

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 MM HG
REL HUMID = 70 %

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10

FIGURE 1 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

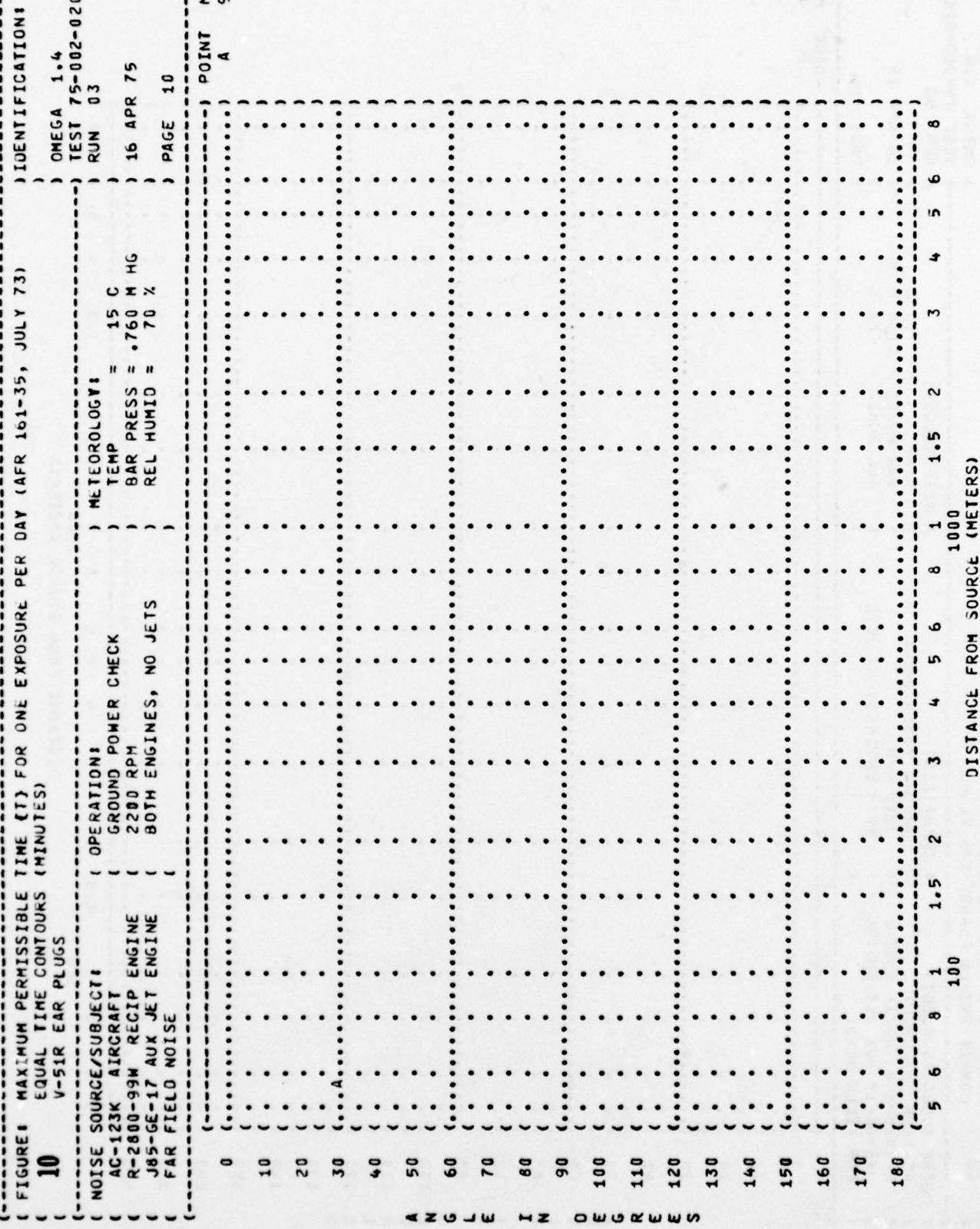
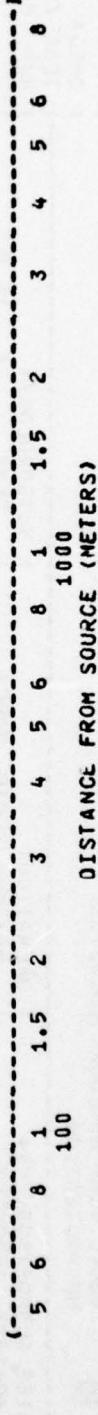


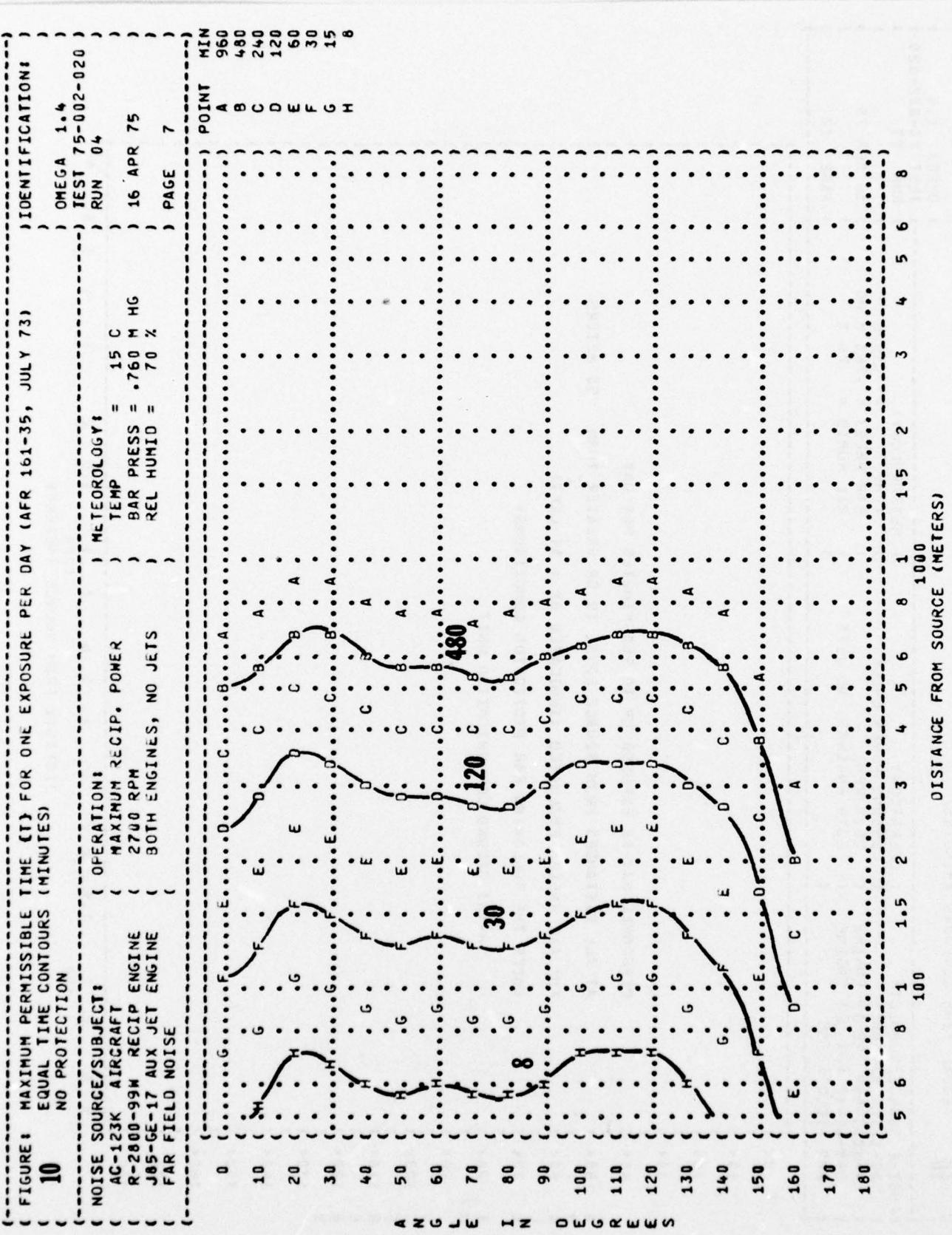
FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

10



PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 50 METERS
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:
H-133 GROUND COMMUNICATION UNIT





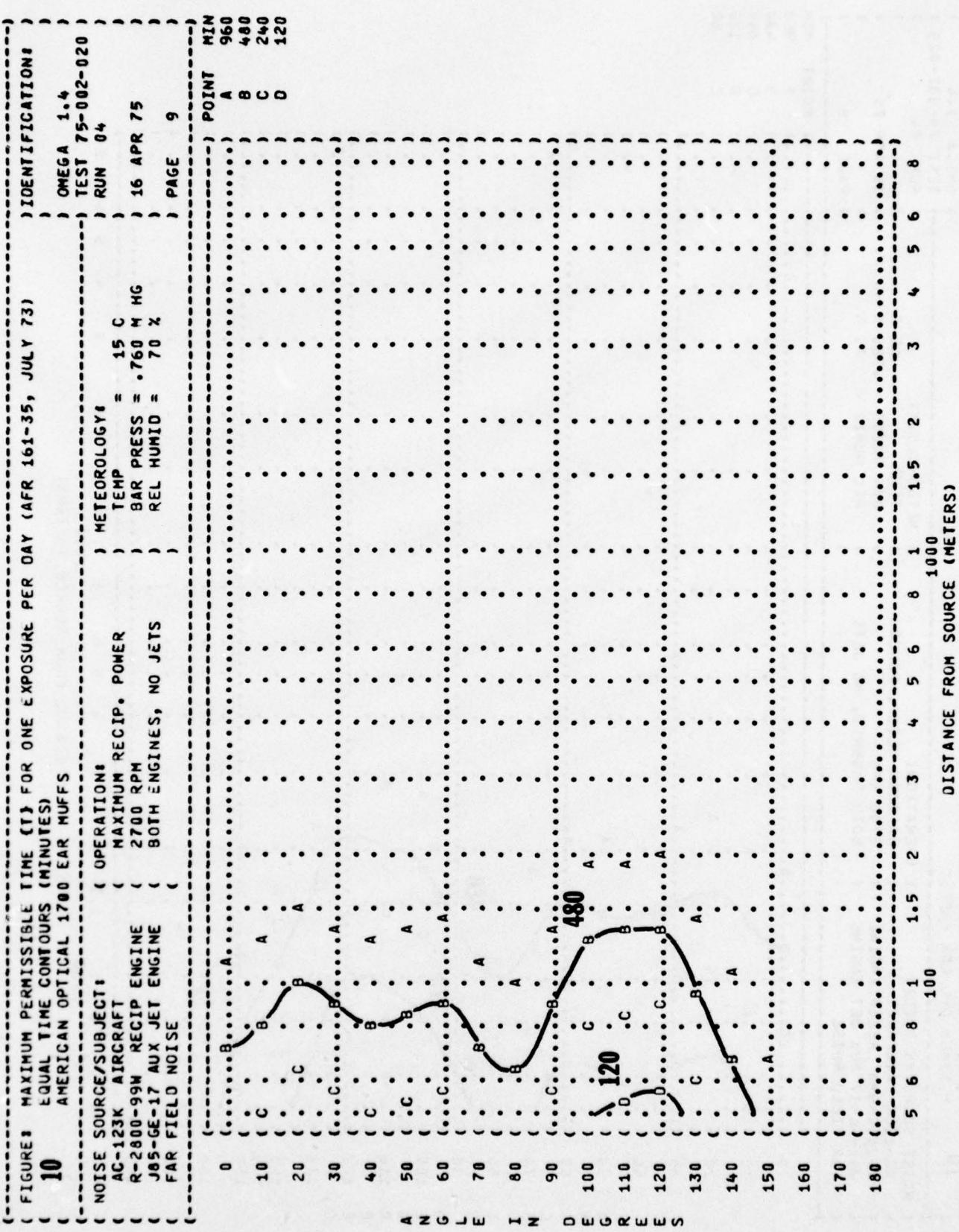


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
 10 EQUAL TIME CONTOURS (MINUTES)
 V-51R EAR PLUGS

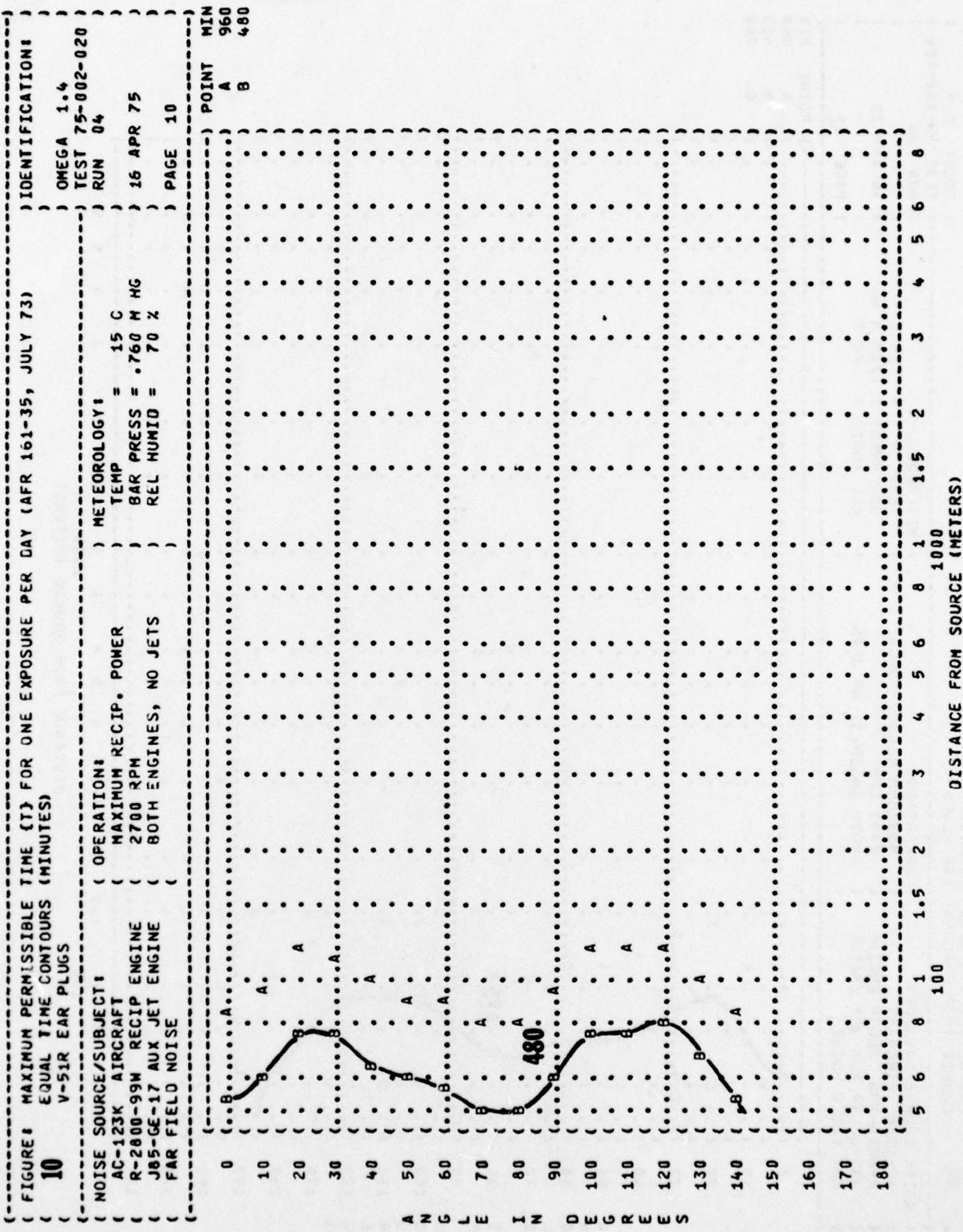
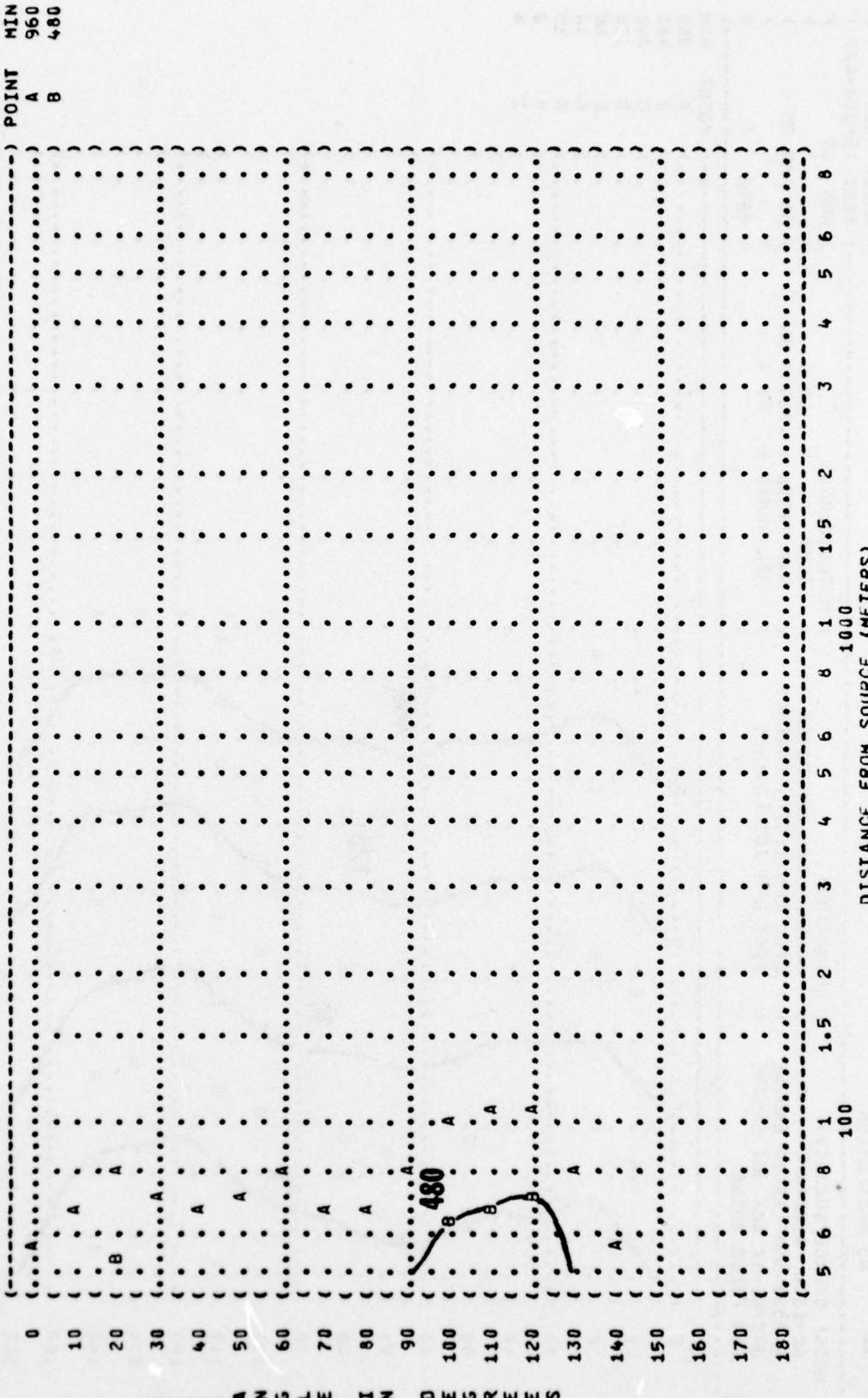


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
 EQUAL TIME CONTOURS (MINUTES)
 H-133 GROUND COMMUNICATION UNIT
10

NOISE SOURCE/SUBJECT	OPERATION:	MAXIMUM RECIP. POWER	METEOROLOGY:
AC-123K AIRCRAFT	RECIP ENGINE	2700 RPM	TEMP = 15 C
R-2800-99W	BOTH ENGINES, NO JETS		BAR PRESS = .760 MM HG
J85-GE-17 AUX JET ENGINE			REL HUMID = 70 %
FAR FIELD NOISE			



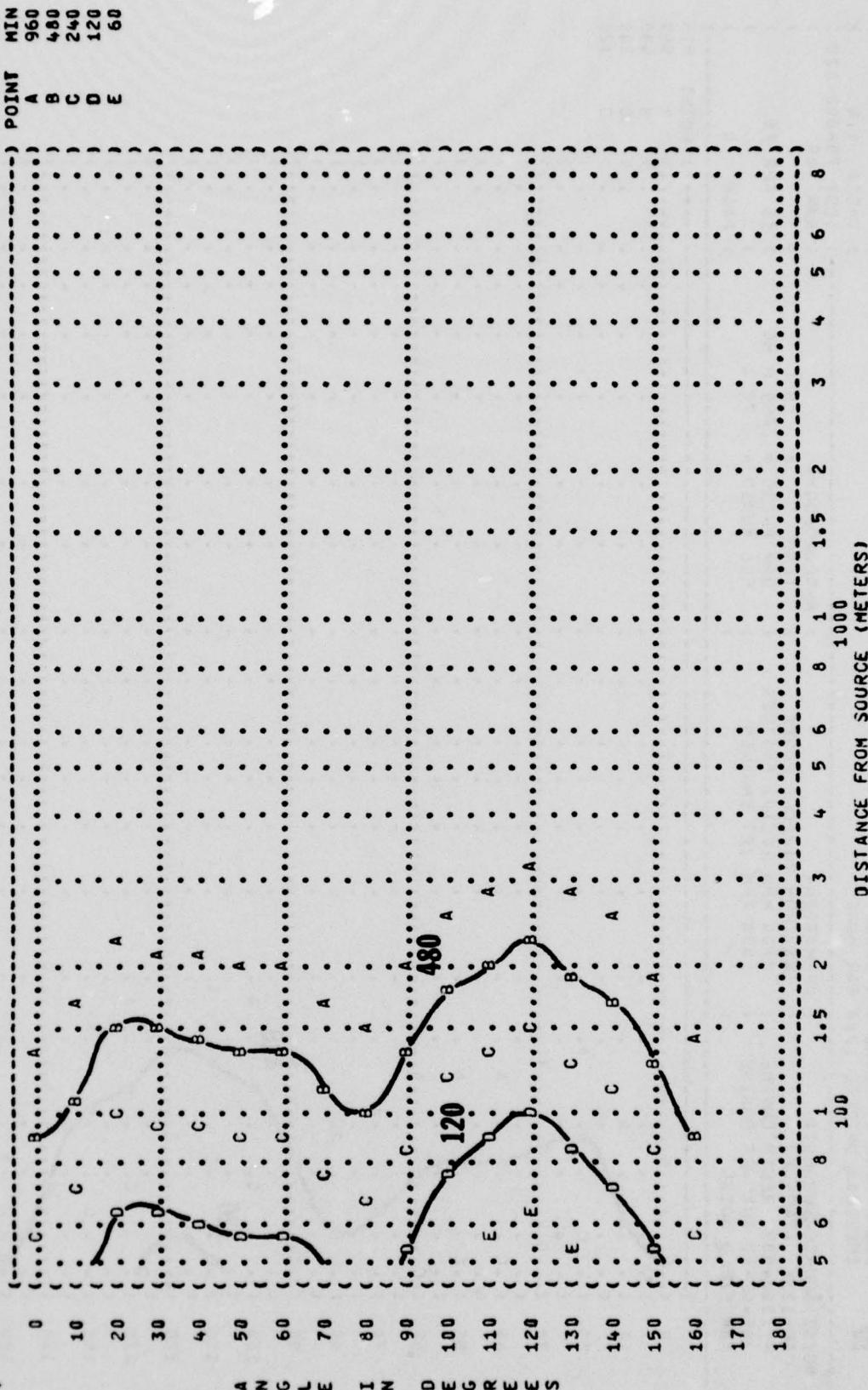
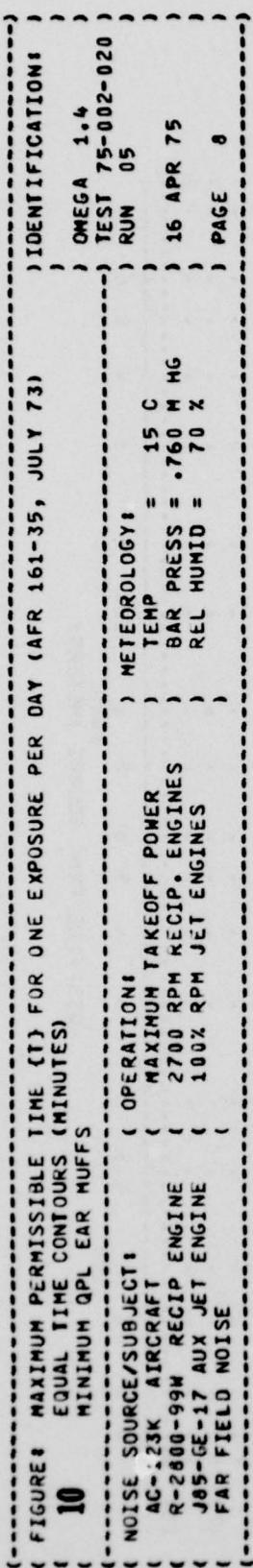


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
10

EQUAL TIME CONTOURS (MINUTES)
 AMERICAN OPTICAL 1700 EAR MUFFS

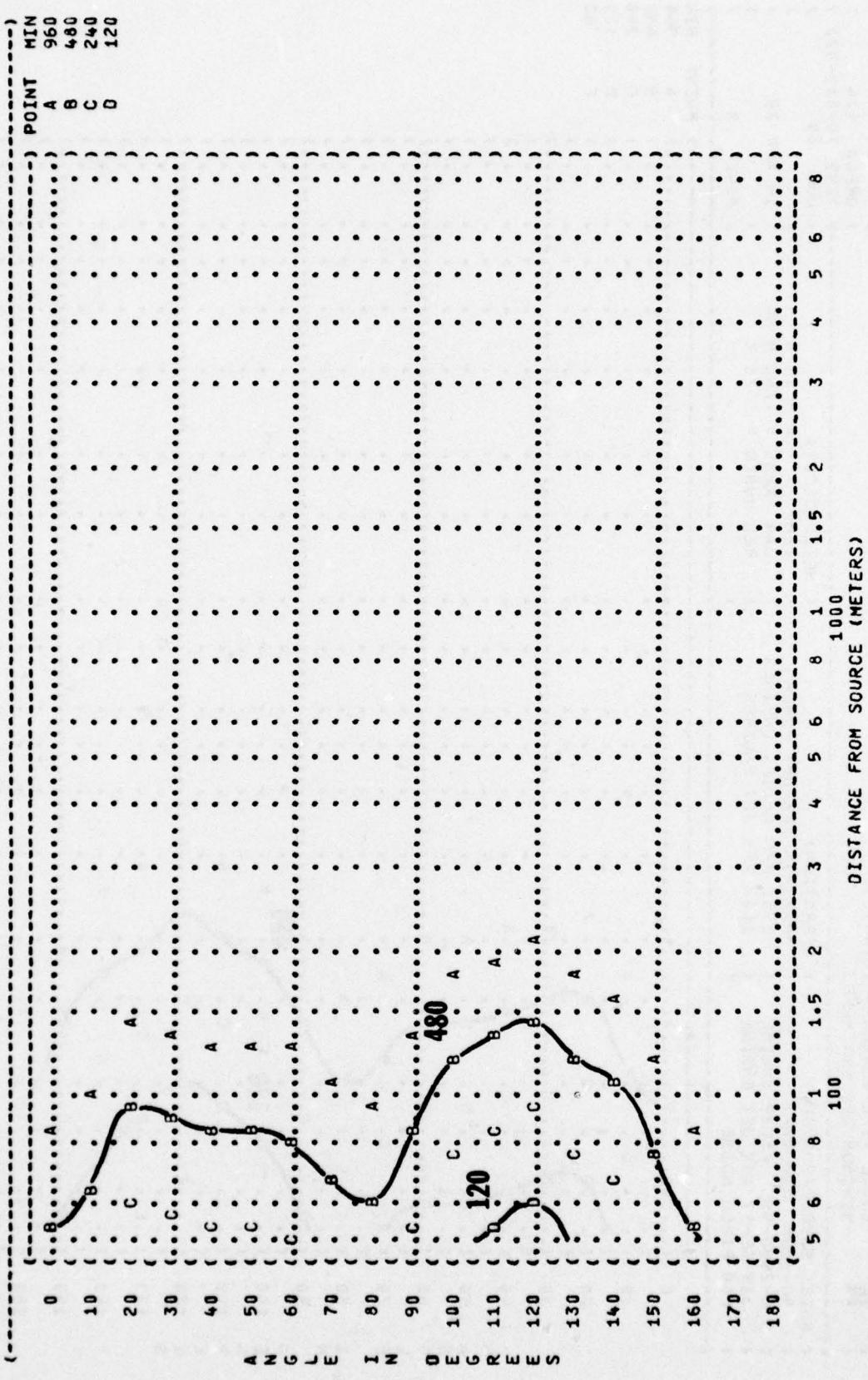
NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP. ENGINE
 J85-GE-17 AUX. JET ENGINE
 FAR FIELD NOISE

OPERATION:
 MAXIMUM TAKEOFF POWER
 2700 RPM RECIP. ENGINES
 100% RPM JET ENGINES

OMEGA 1.4
 TEST 75-002-020
 RUN 05

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

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(FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
 10 EQUAL TIME CONTOURS (MINUTES)
 COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT

(AC-123K AIRCRAFT
 (R-2800-99W RECIP ENGINE
 (J85-GE-17 AUX JET ENGINE
 (FAR FIELD NOISE

OPERATIONS

(MAXIMUM TAKEOFF POWER
 (2700 RPM RECIP. ENGINES
 (100% RPM JET ENGINES

POINT

A 960
 B 480
 C 240
 D 120

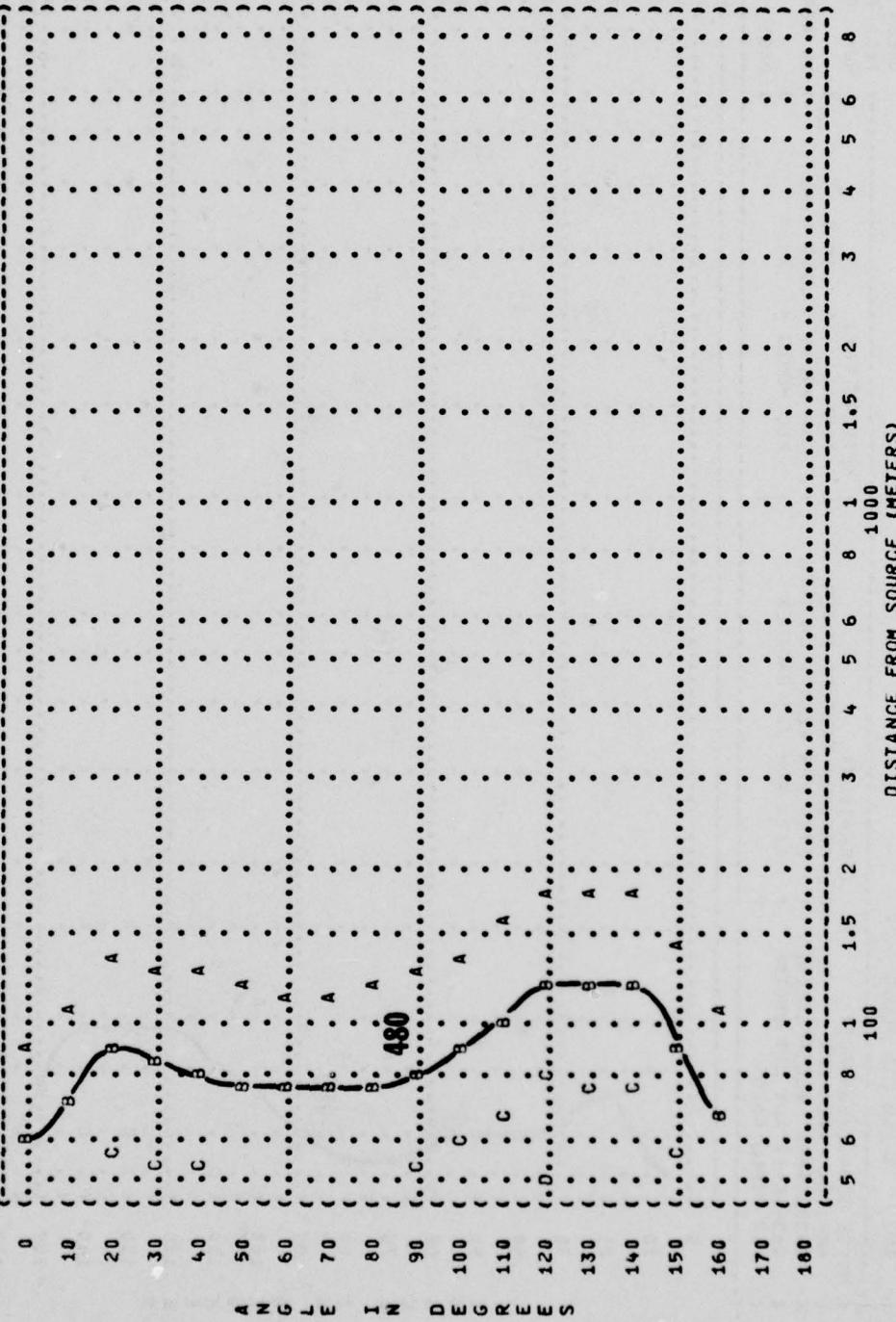
MIN

960
 480
 240
 120

TEST 75-002-020

RUN 05

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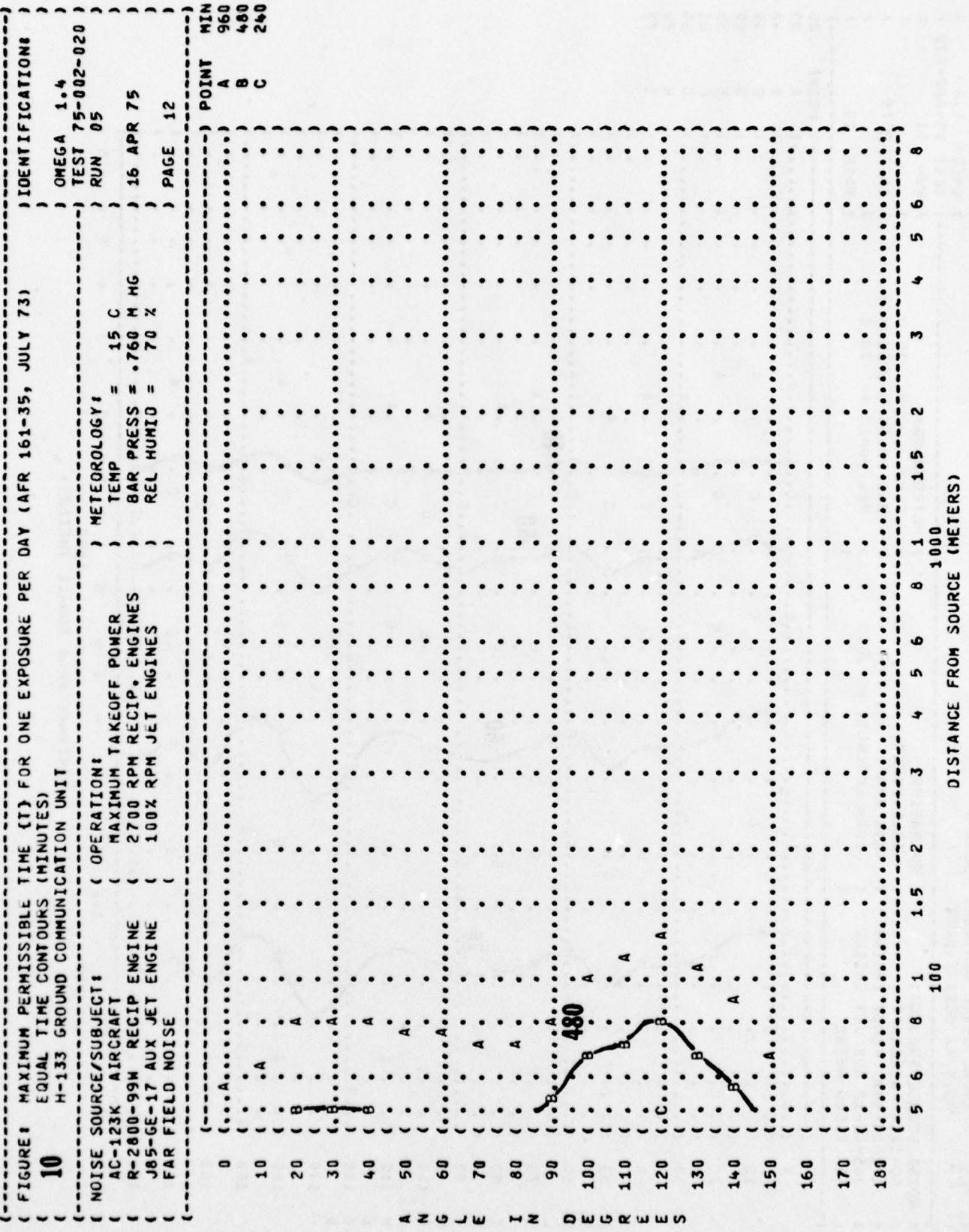


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)

11 31.5 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
650 RPM
BOTH ENGINES, NO JETS

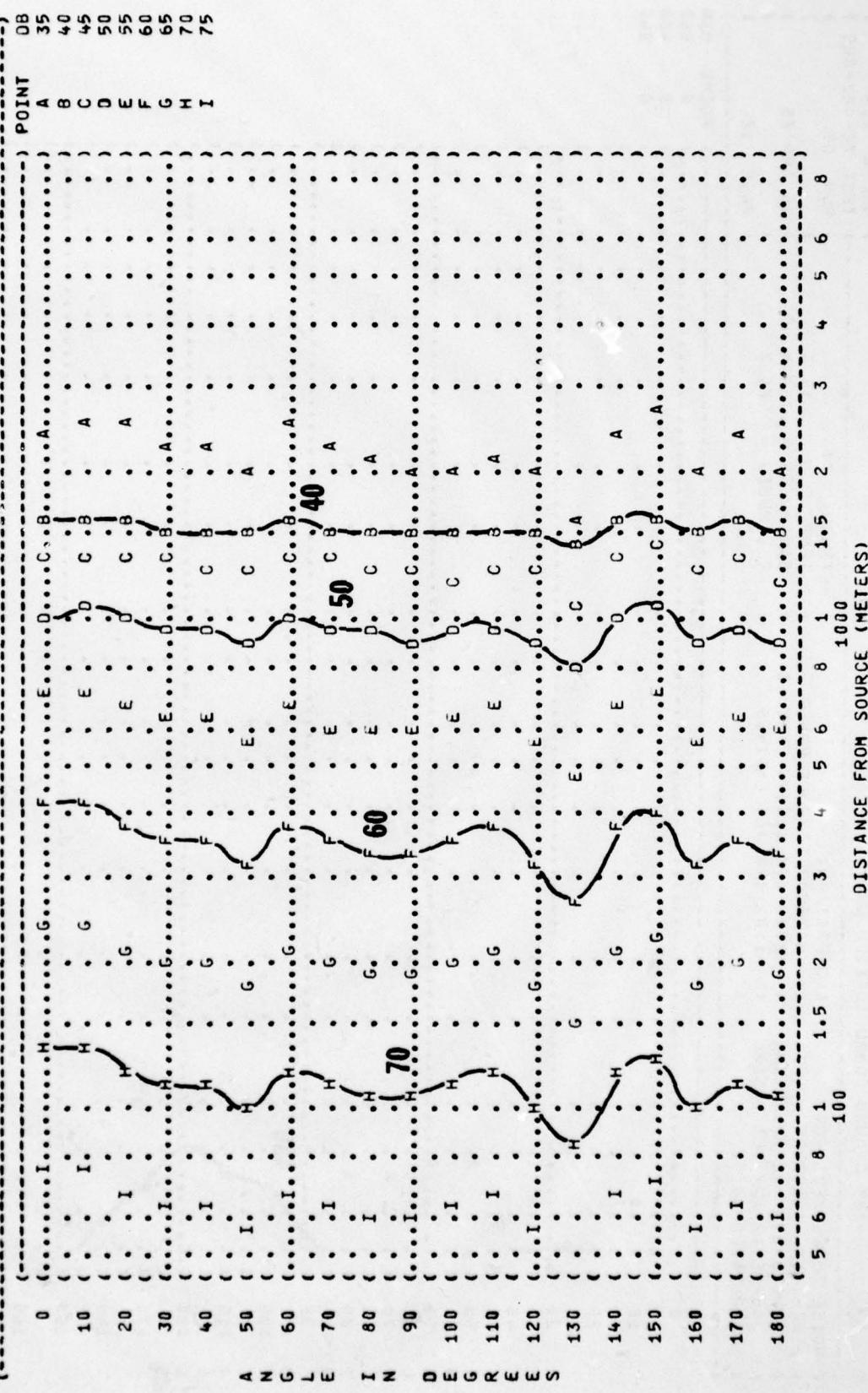
WEATHEROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 01
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IDENTIFICATION:

OMEGA 1.4

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SOURCE/SUBJECT	OPER	ID
AC-123K AIRCRAFT	(65
90-2800-99W RECIP ENGINE	(80
188-68-17 AUX JET ENGINE	(
90W FIRLD NOISE)	

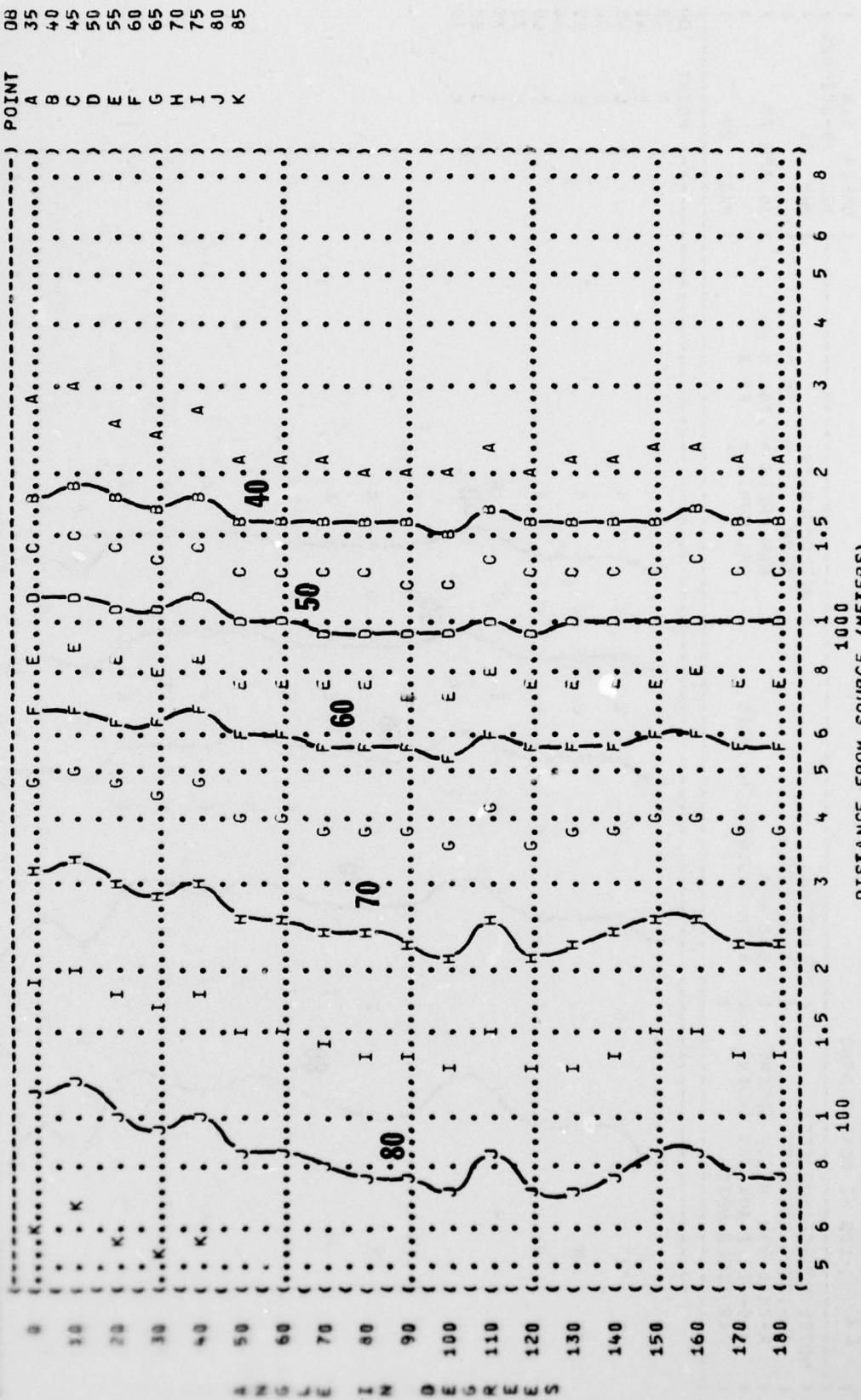


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
125 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
650 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 01
16 APR 75
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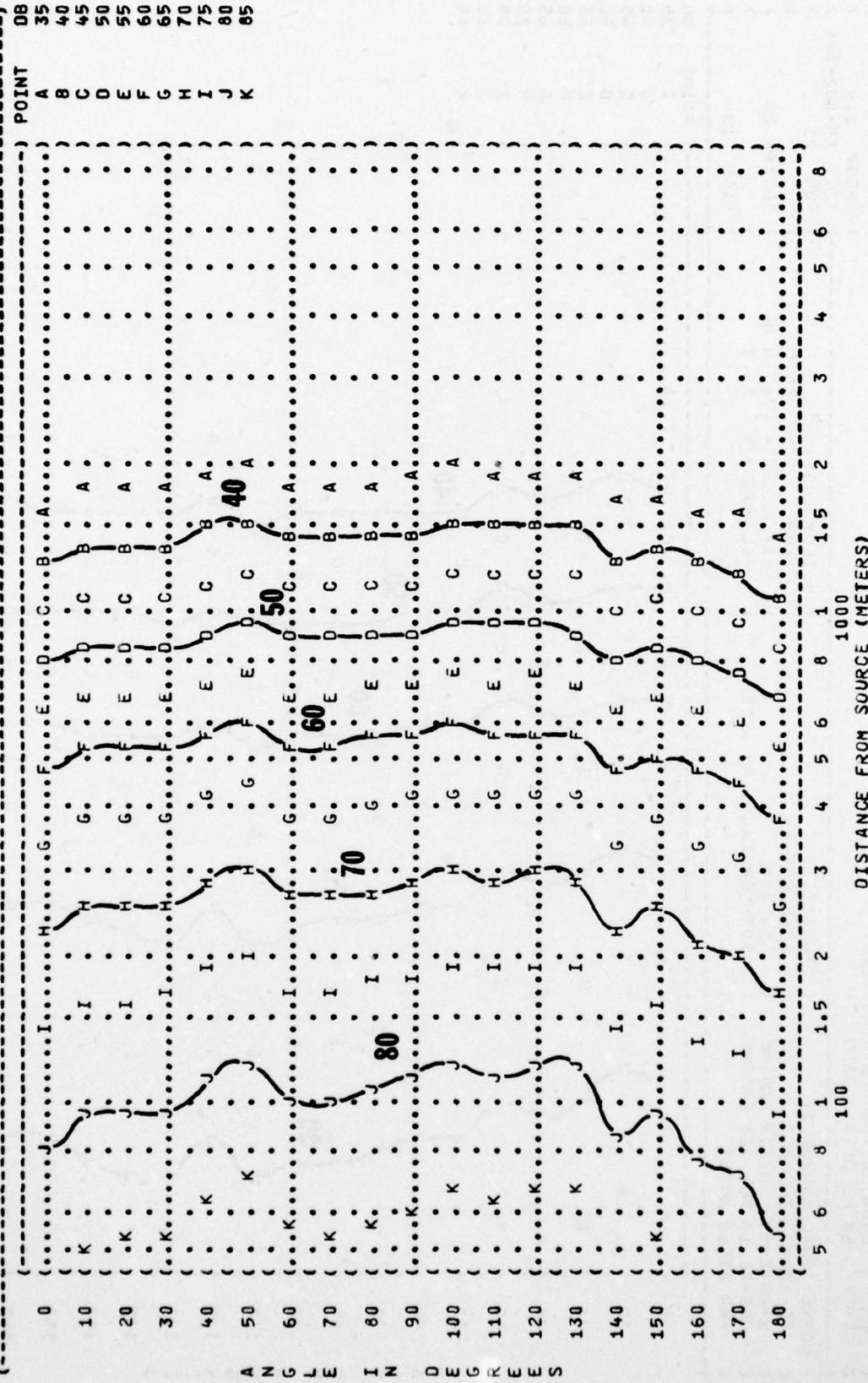


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL OCTAVE BAND
250 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
650 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 01
16 APR 75
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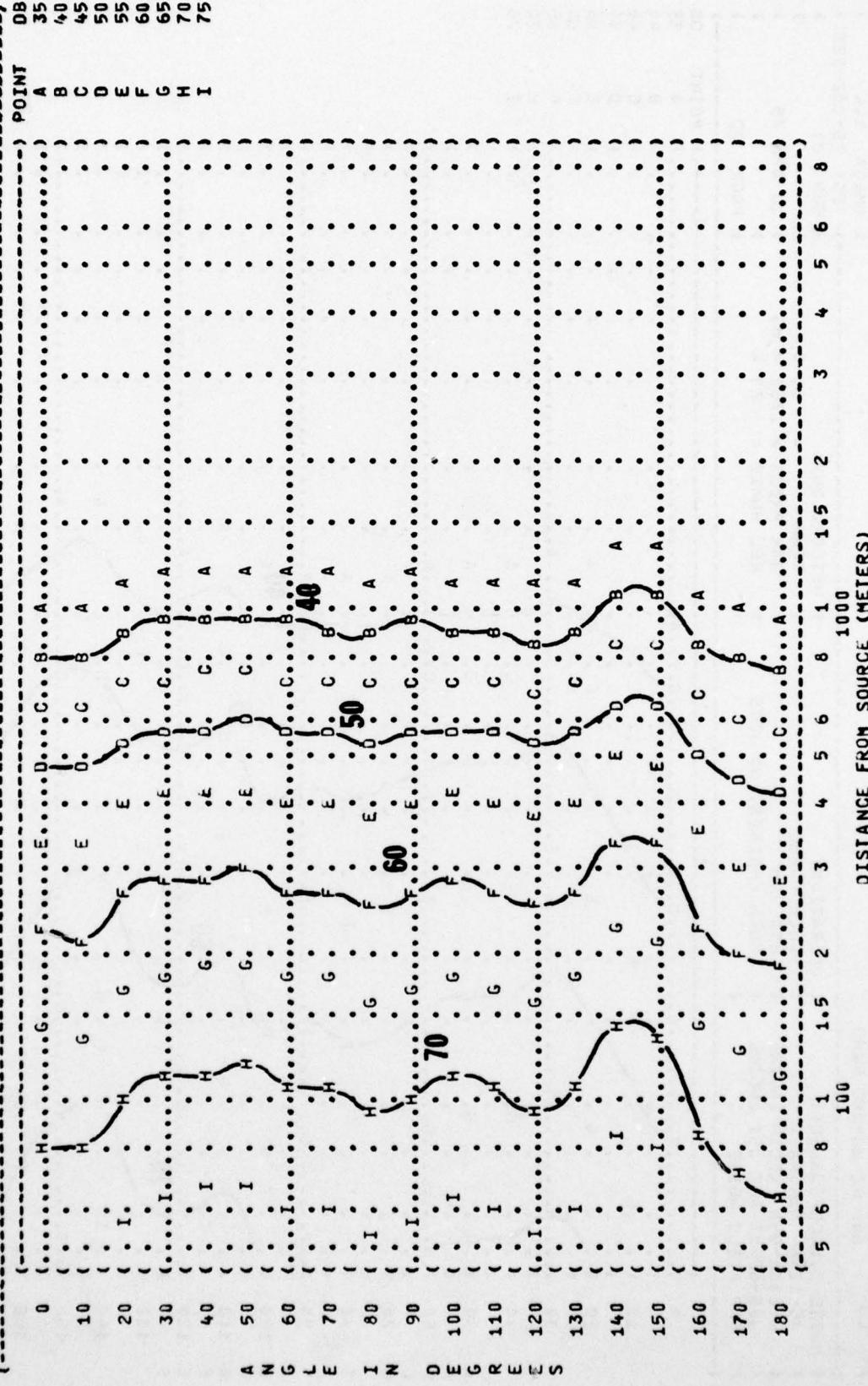


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (0B)
 500 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

OPERATION:
 IDLE POWER
 650 RPM
 BOTH ENGINES, NO JETS

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

TEST 75-002-020
 RUN 01
 16 APR 75
 PAGE 22

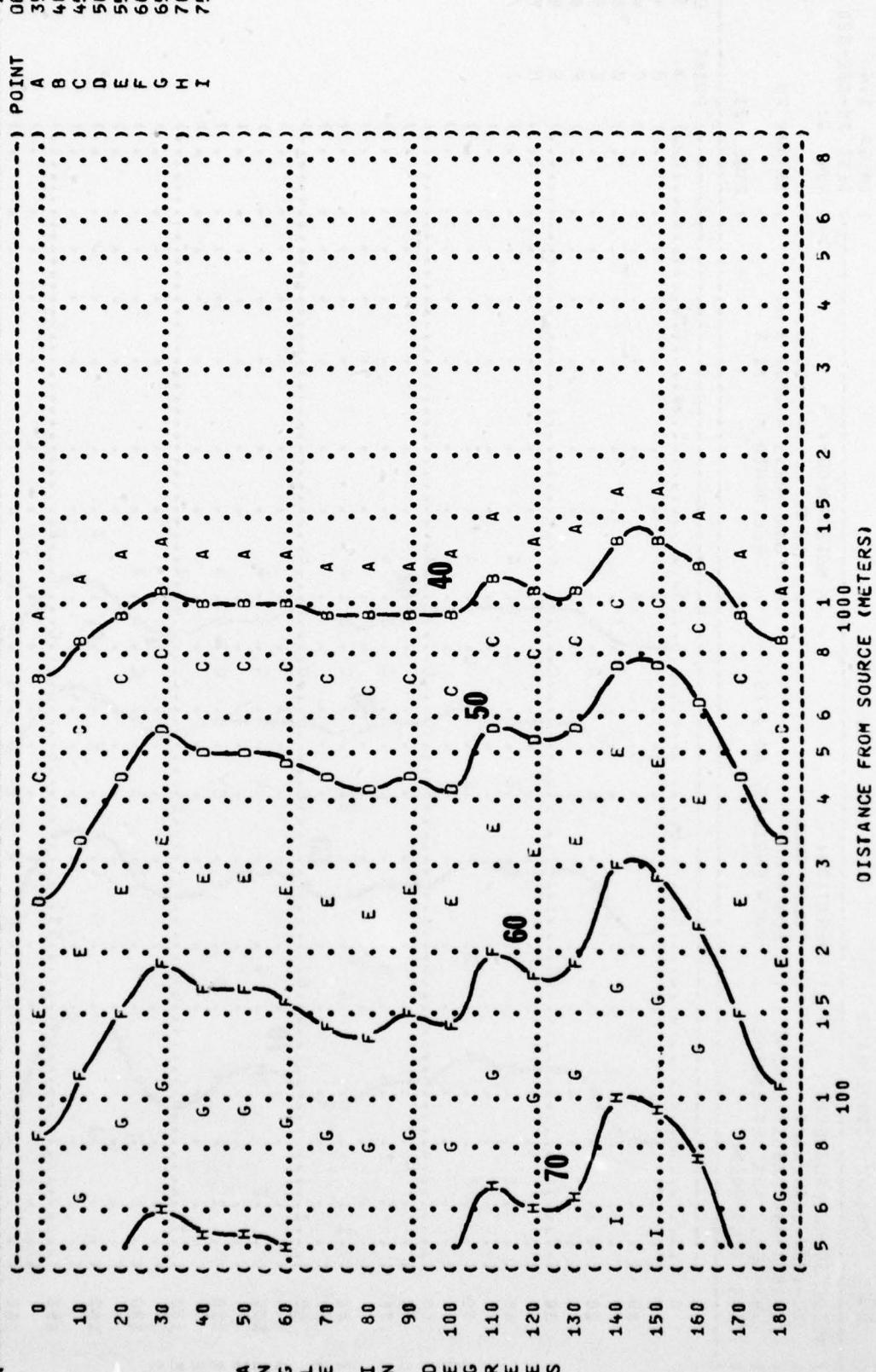
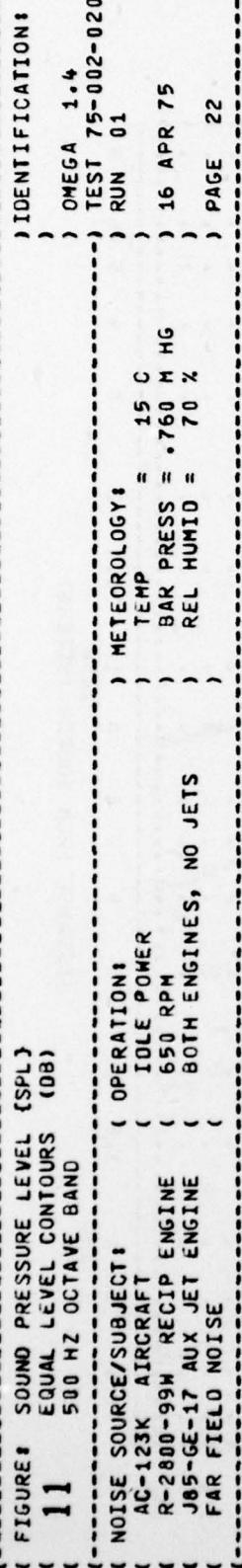


FIGURE: SOUND PRESSURE LEVEL (SPL)
11
 EQUAL LEVEL CONTOURS
 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

OPERATION:
 IDLE POWER
 650 RPM
 BOTH ENGINES, NO JETS

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

TEST 75-002-020
 RUN 01
 16 APR 75
 PAGE 23

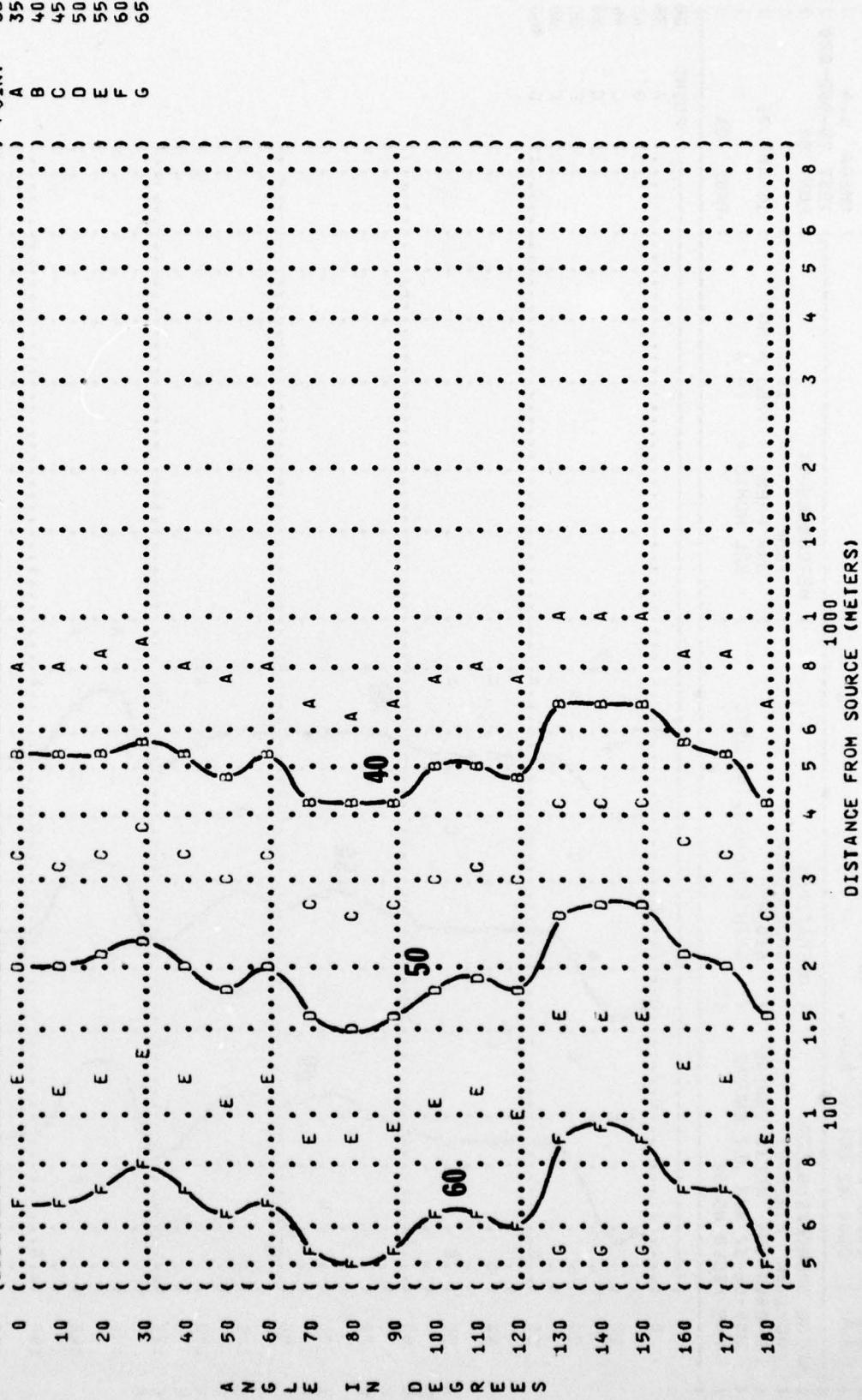


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
2000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
650 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 Hg
REL HUMID = 70 %

TEST 75-002-020
RUN 01
16 APR 75
PAGE 24

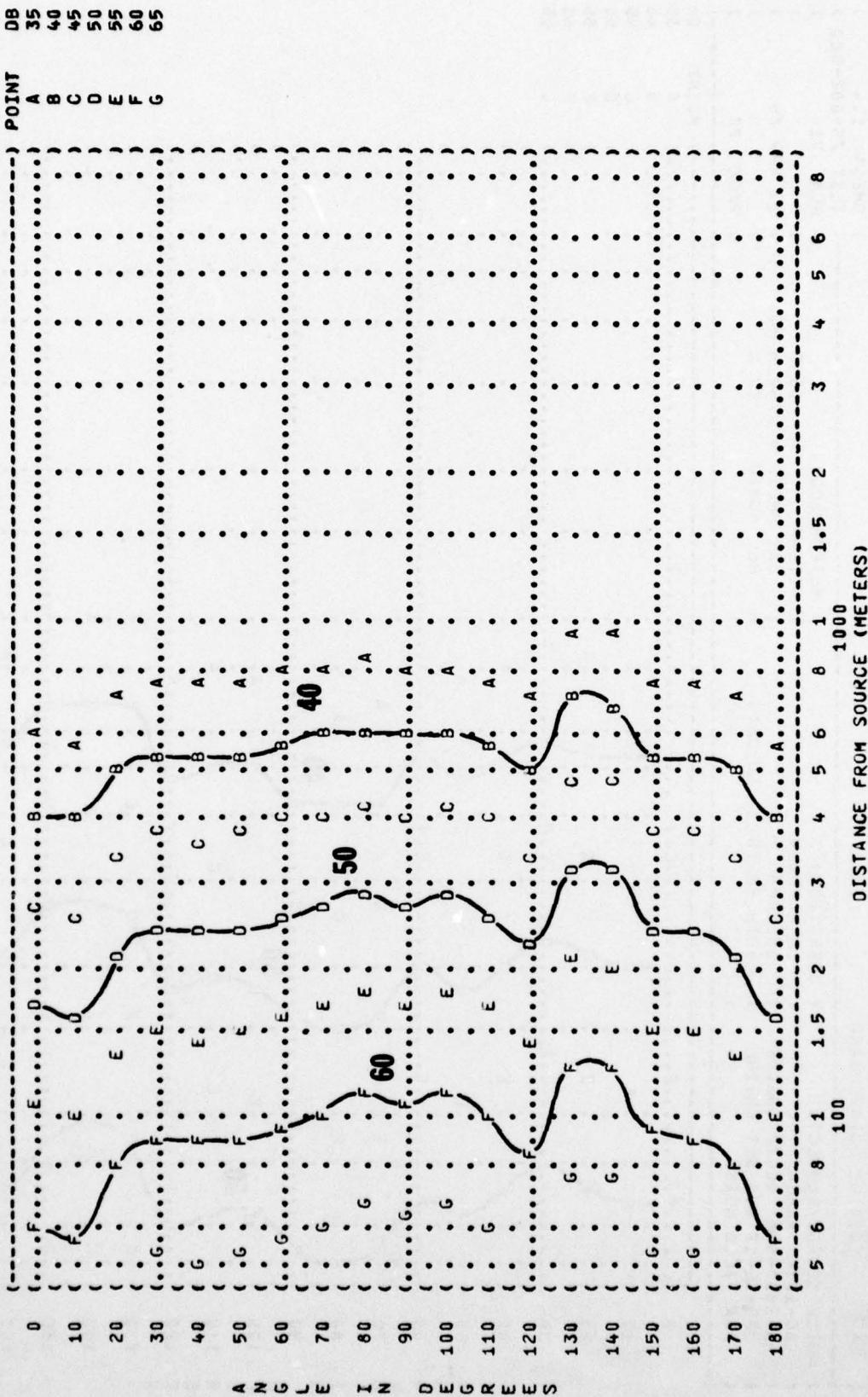


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
 4000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

OPERATION:
 IDLE POWER
 650 RPM
 BOTH ENGINES, NO JETS

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 Hg
 REL HUMID = 70 %
 PAGE 25

IDENTIFICATION:

OMEGA 1.4
 TEST 75-002-020
 RUN 01

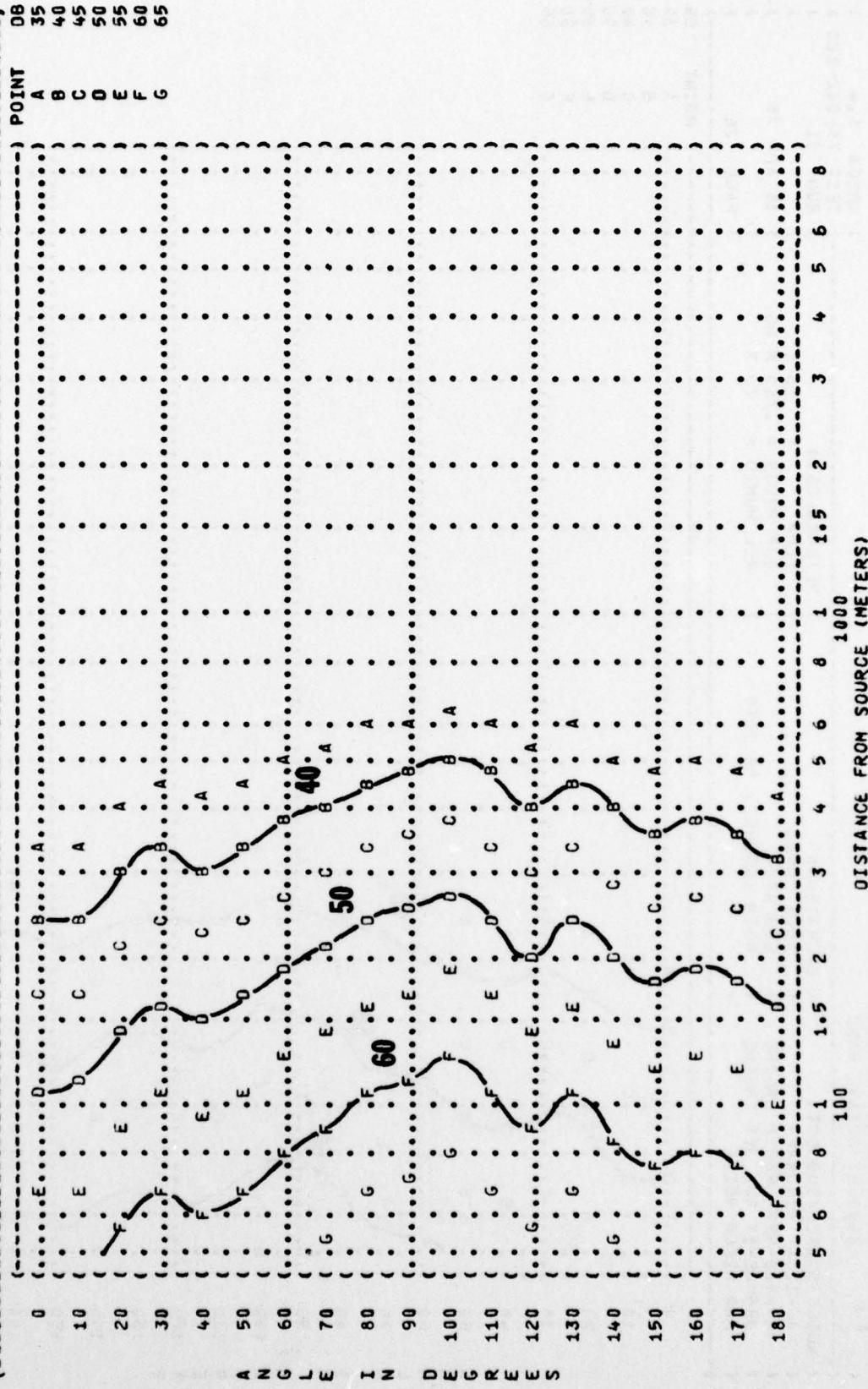


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
650 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %
TEST 75-002-020
RUN 01
16 APR 75
PAGE 26

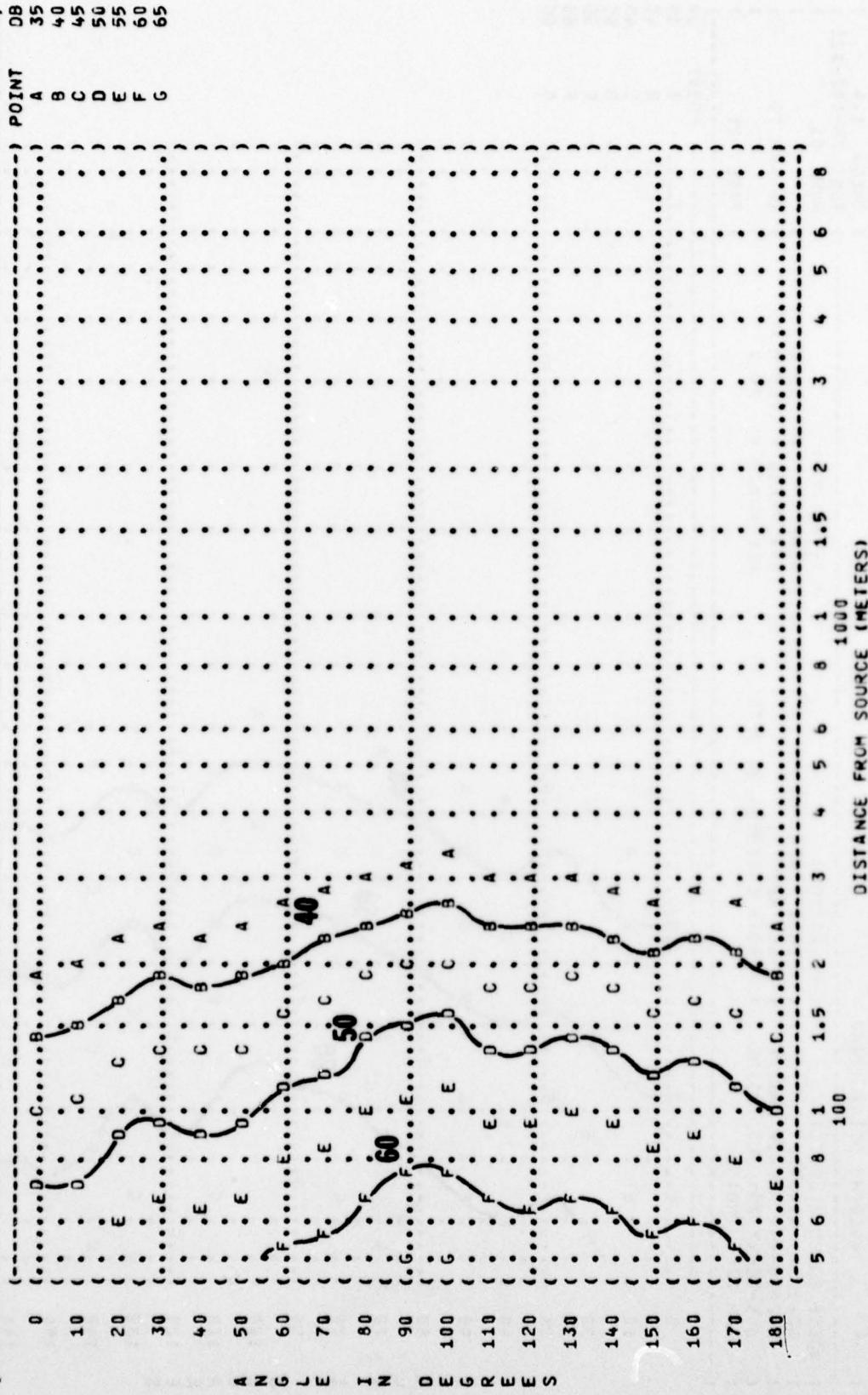


FIGURE: SOUND PRESSURE LEVEL (SPL)
11
 EQUAL LEVEL CONTOURS (0B)
 31.5 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

OPERATION:
 TAXI POWER
 1000 RPM
 BOTH ENGINES, NO JETS

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = 760 M HG
 REL HUMID = 70 %
 TEST 75-002-020
 RUN 02
 16 APR 75

PAGE 18

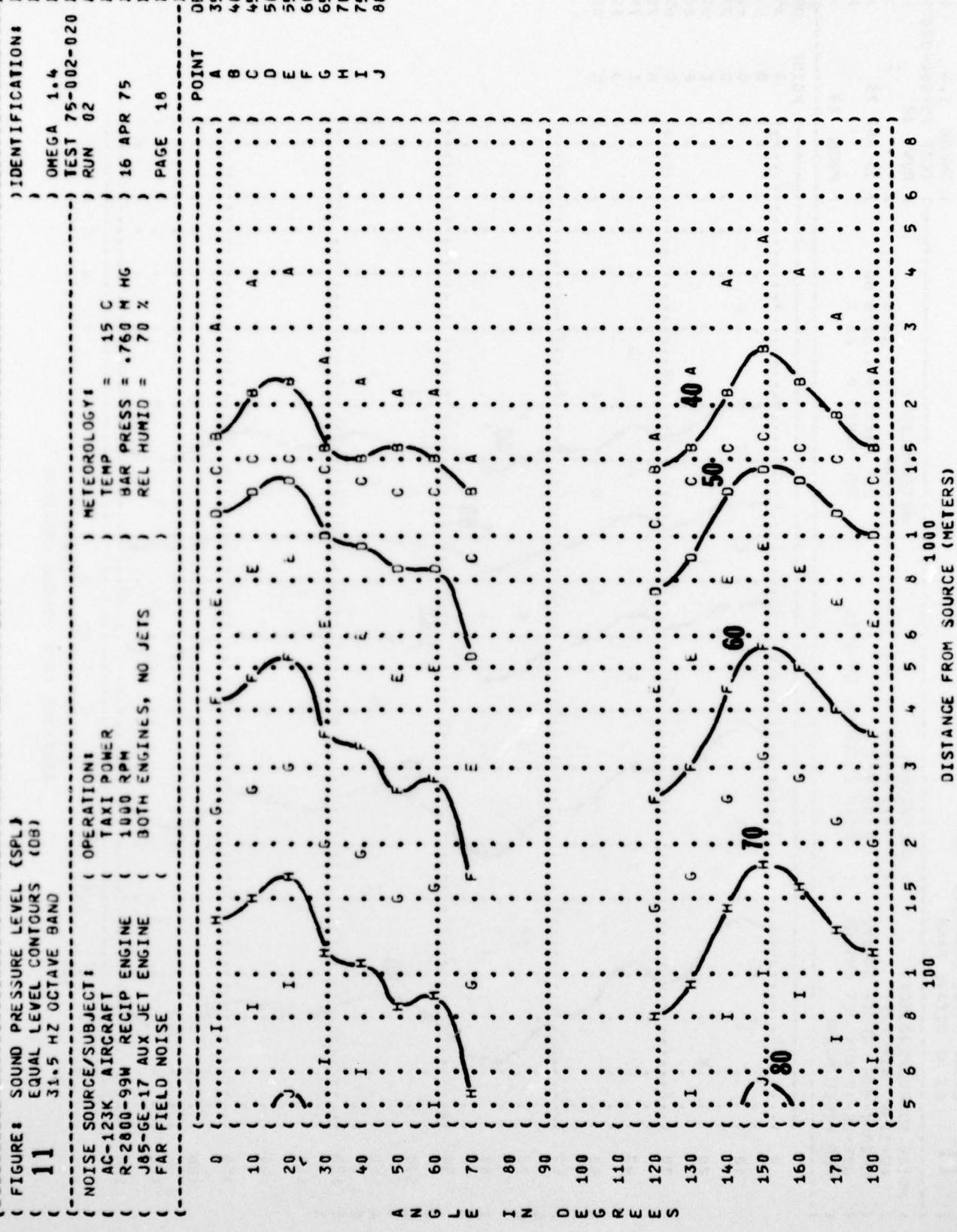


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
11 63 Hz OCTAVE BAND

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-020
RUN 02

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2000-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 MM HG
REL HUMID = 70 %

PAGE 19

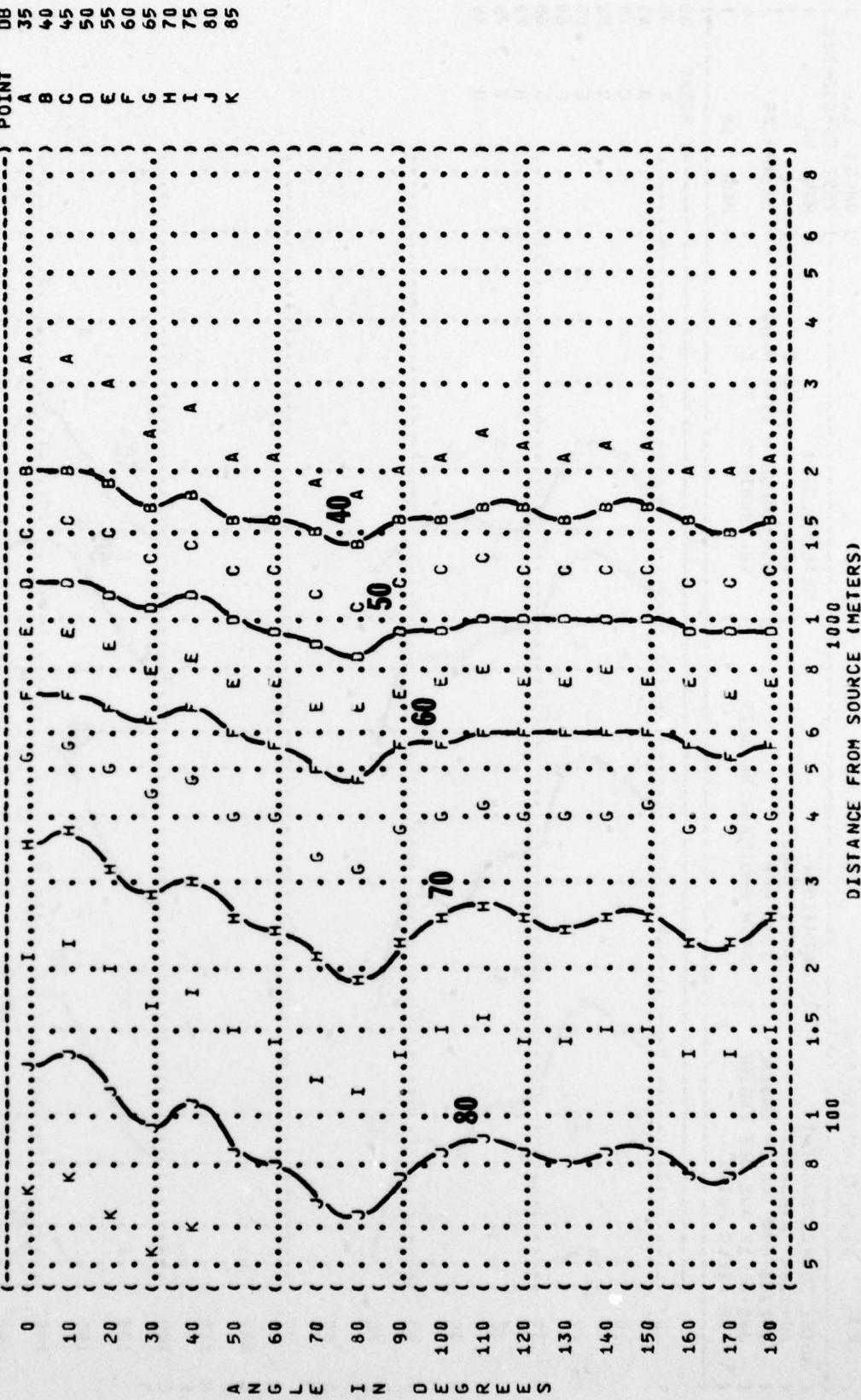


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
125 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION
TAXI POWER
1000 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
TEST 75-002-020
RUN 02
16 APR 75
PAGE 20

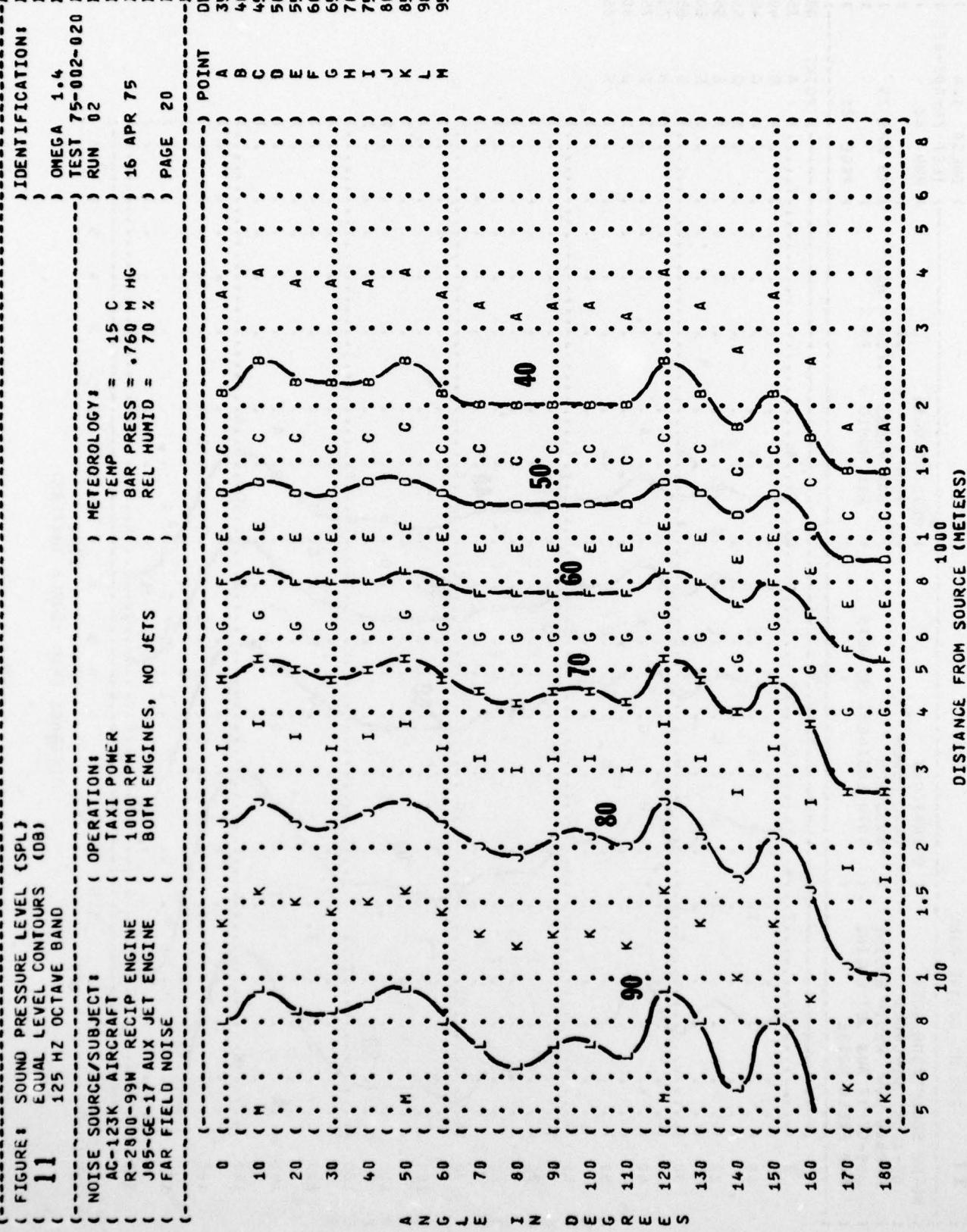


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
250 Hz OCTAVE BAND
11

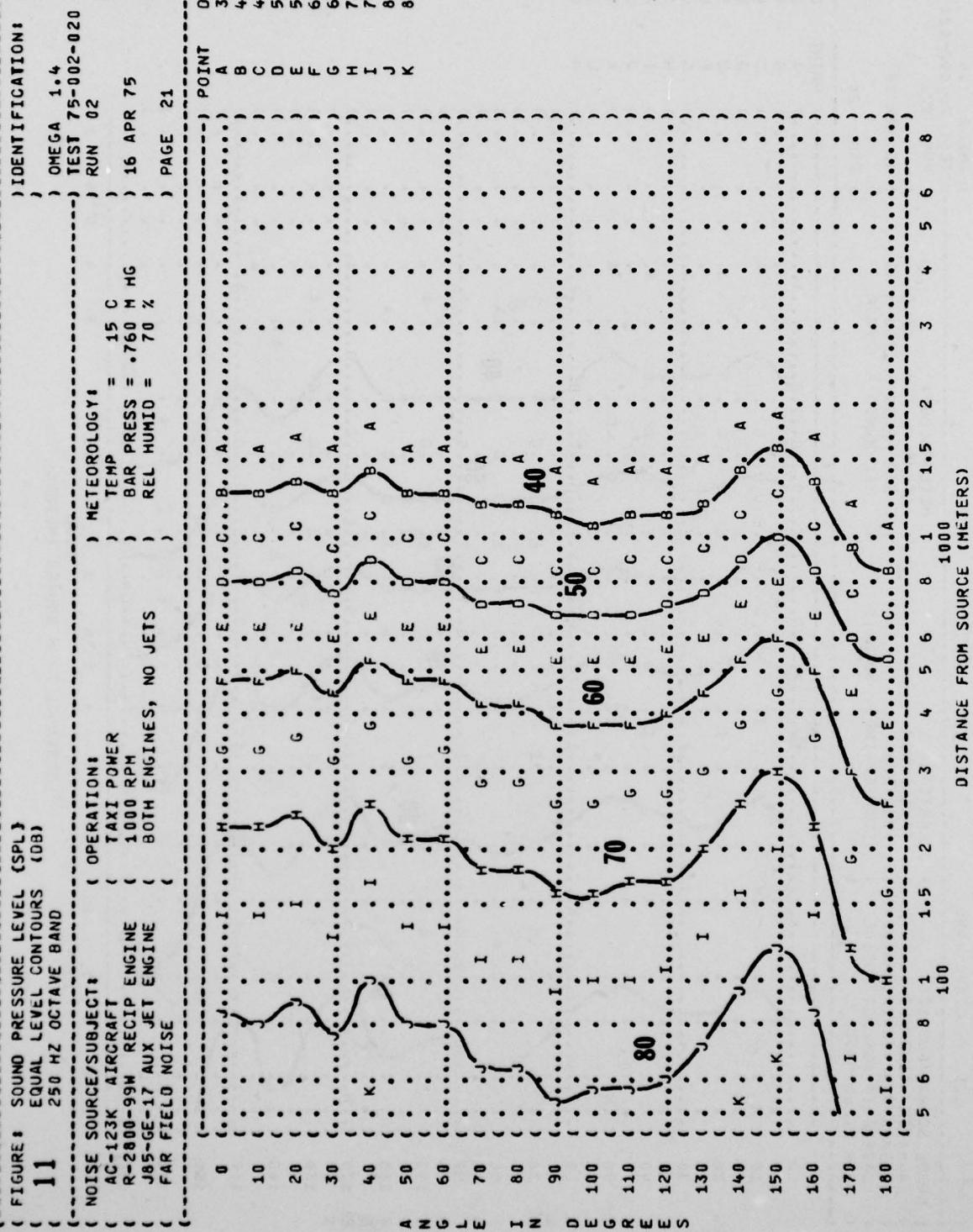


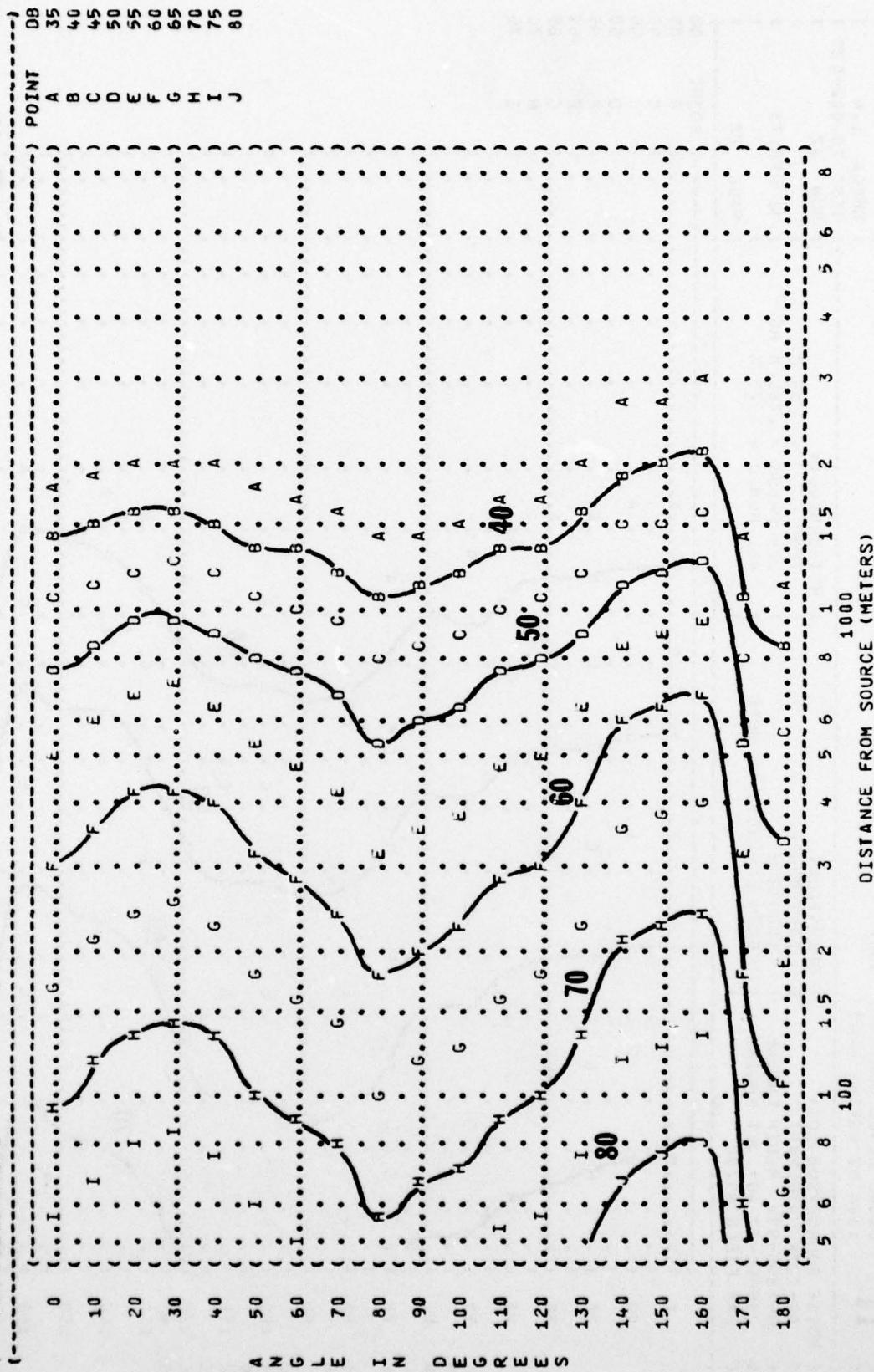
FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

OPERATION:
 TAXI POWER
 1000 RPM
 BOTH ENGINES, NO JETS

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

TEST 75-0U2-020
 RUN 02
 16 APR 75
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DISTANCE FROM SOURCE (METERS)

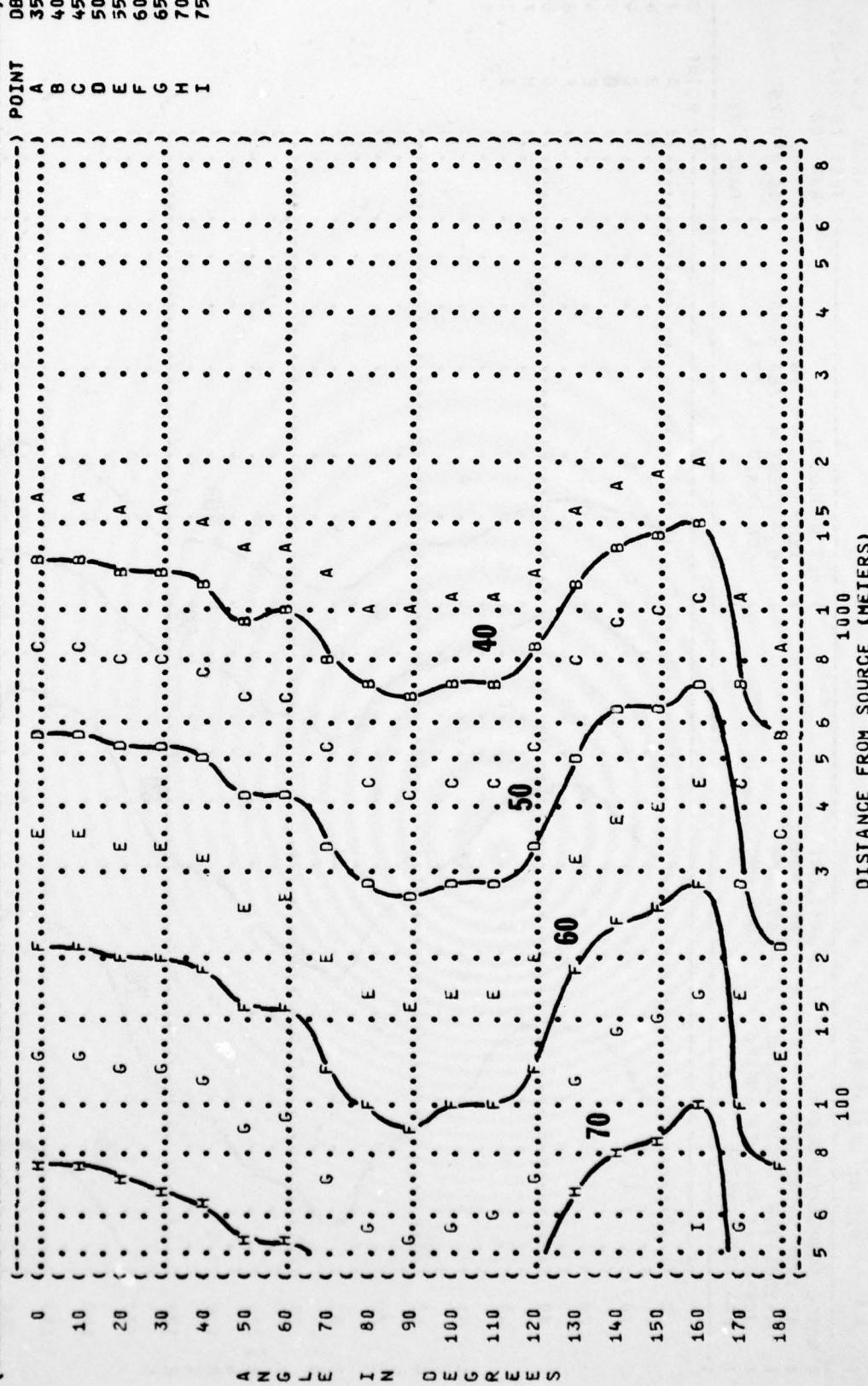
FIGURE 11
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS
1000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 02
16 APR 75
PAGE 23



AD-A048 836

AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OHIO F/G 20/1
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK: C-123K AIRCRAFT, NEA--ETC(U)

FEB 77 R G POWELL

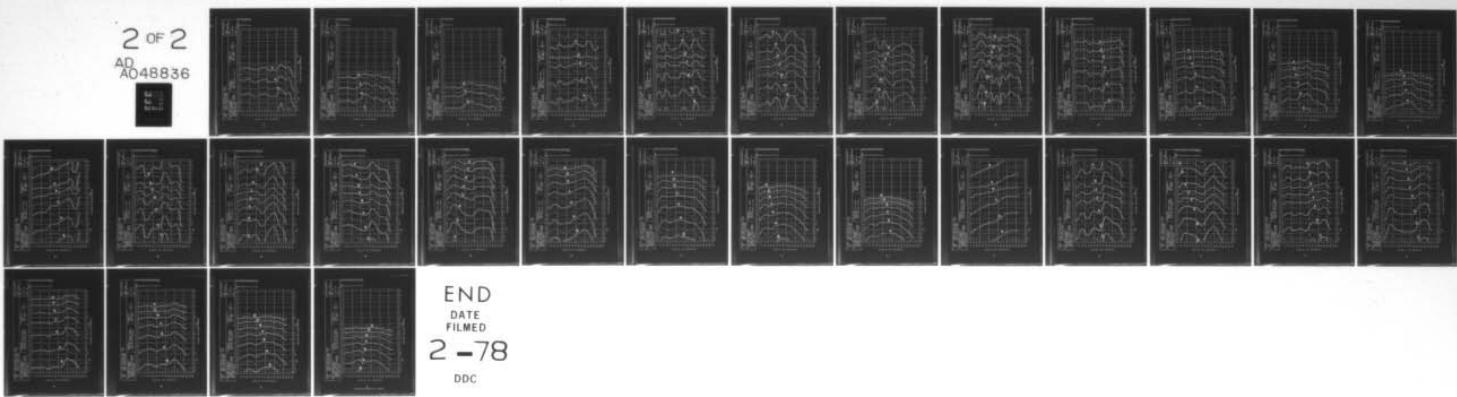
UNCLASSIFIED

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2 OF 2

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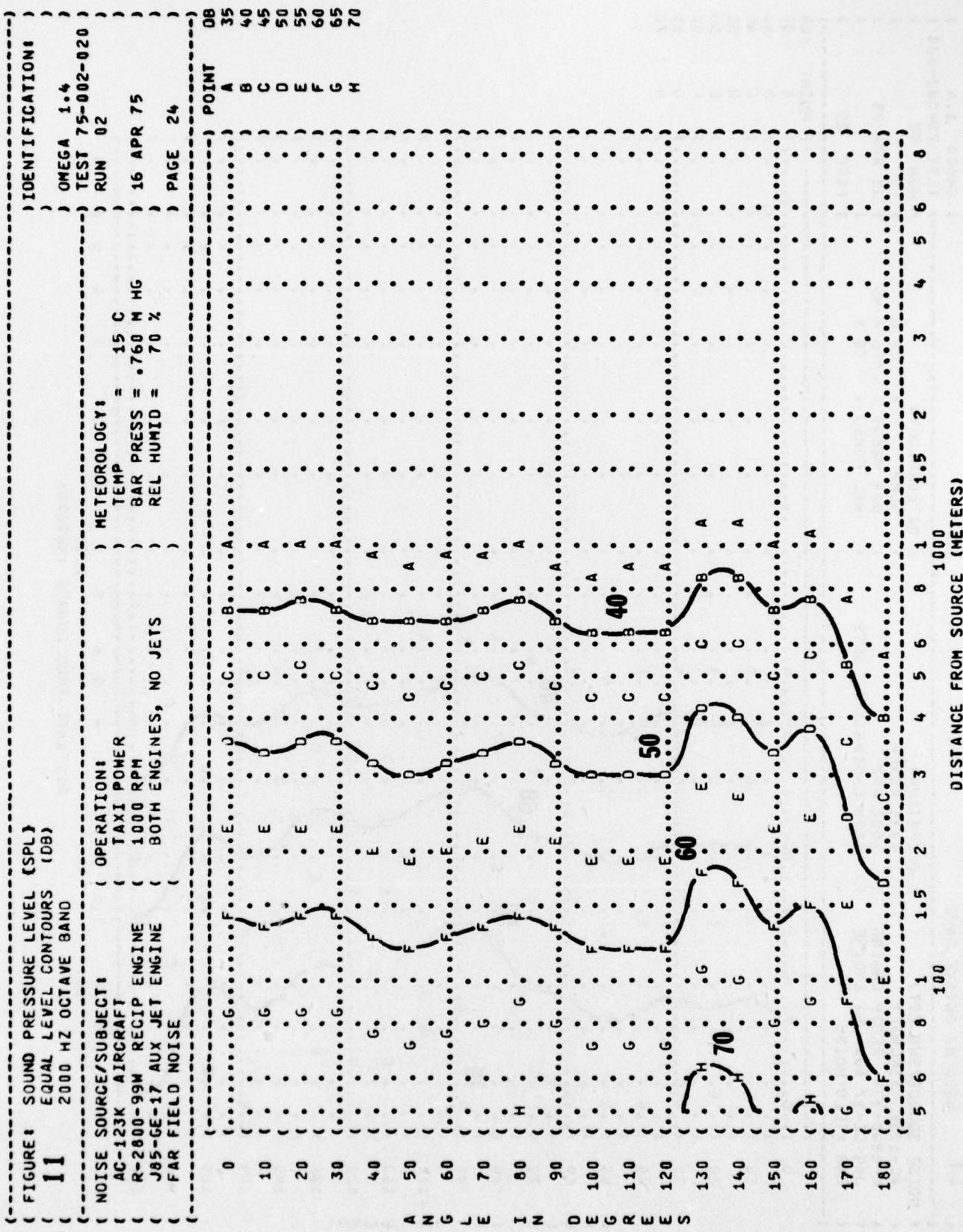


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (03)
4000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

RUN 02

TEST 75-002-020

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IDENTIFICATION:

OMEGA 1.4

TEST 75-002-020

RUN 02

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POINT 08
A
B
C
D
E
F
G
H

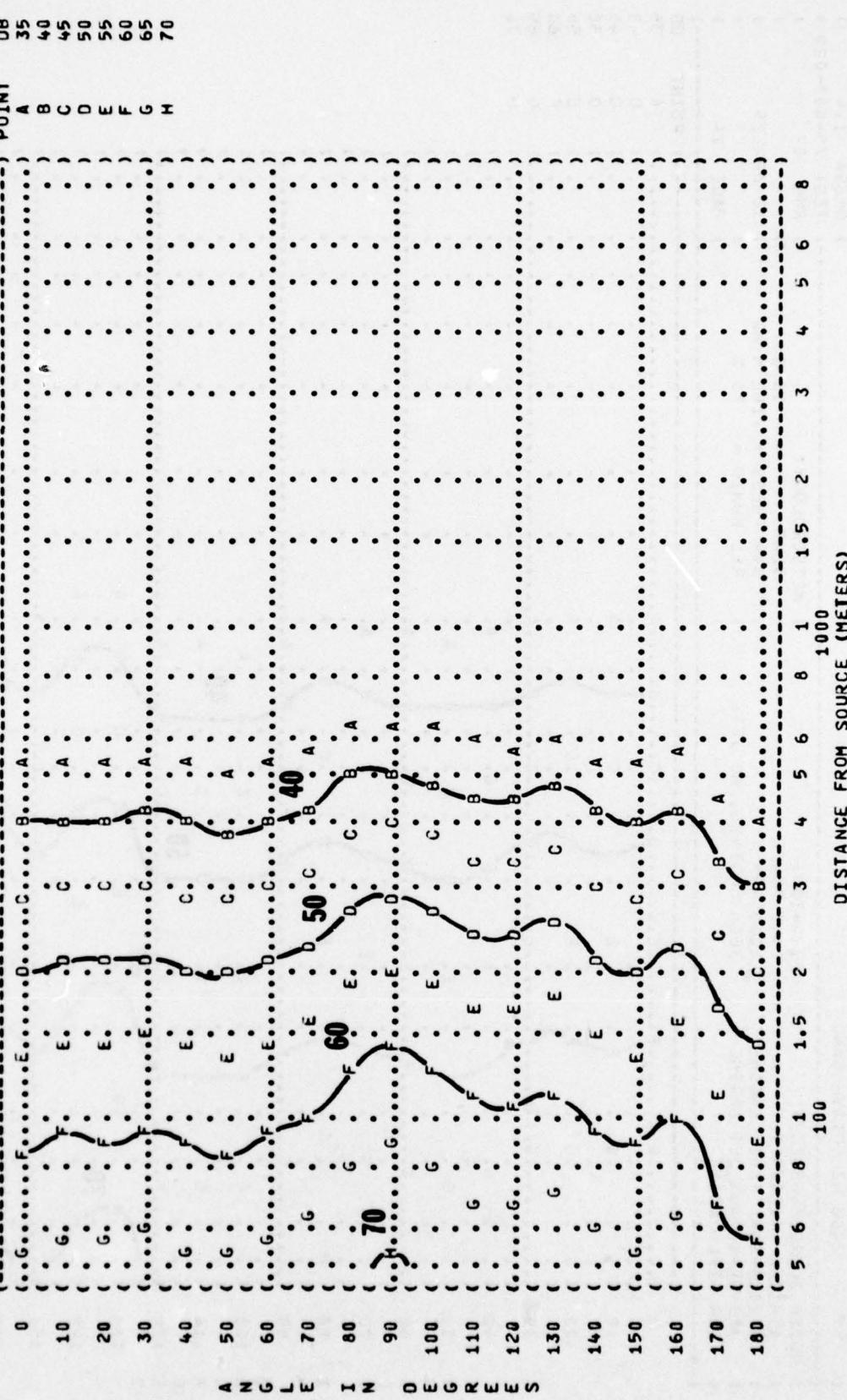


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (08),
8000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2400-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

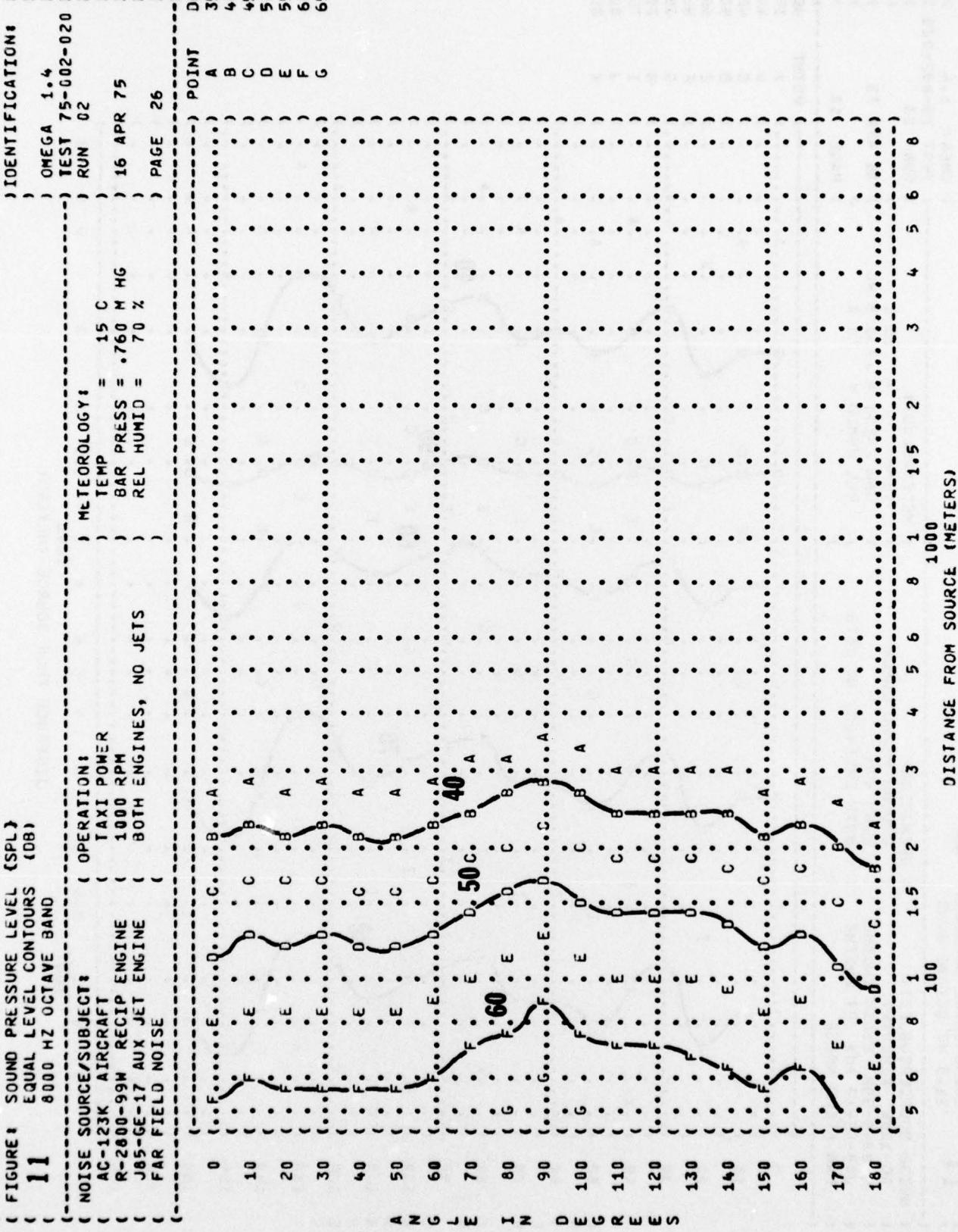


FIGURE 4 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
31.5 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2000-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
TEST 75-002-020
RUN 03
16 APR 75
PAGE 18

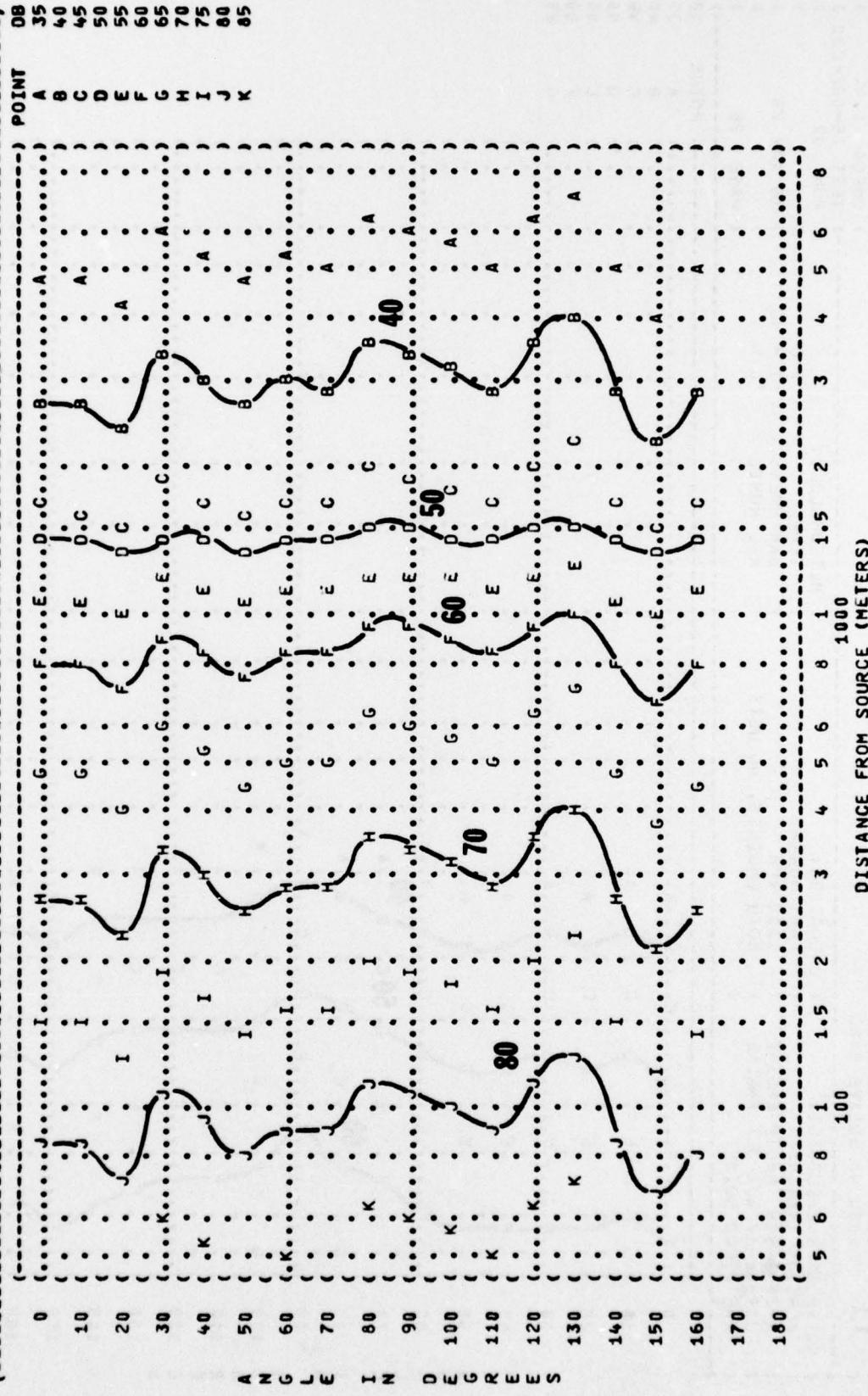


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
63 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
TEST 75-002-0201
RUN 03
PAGE 19

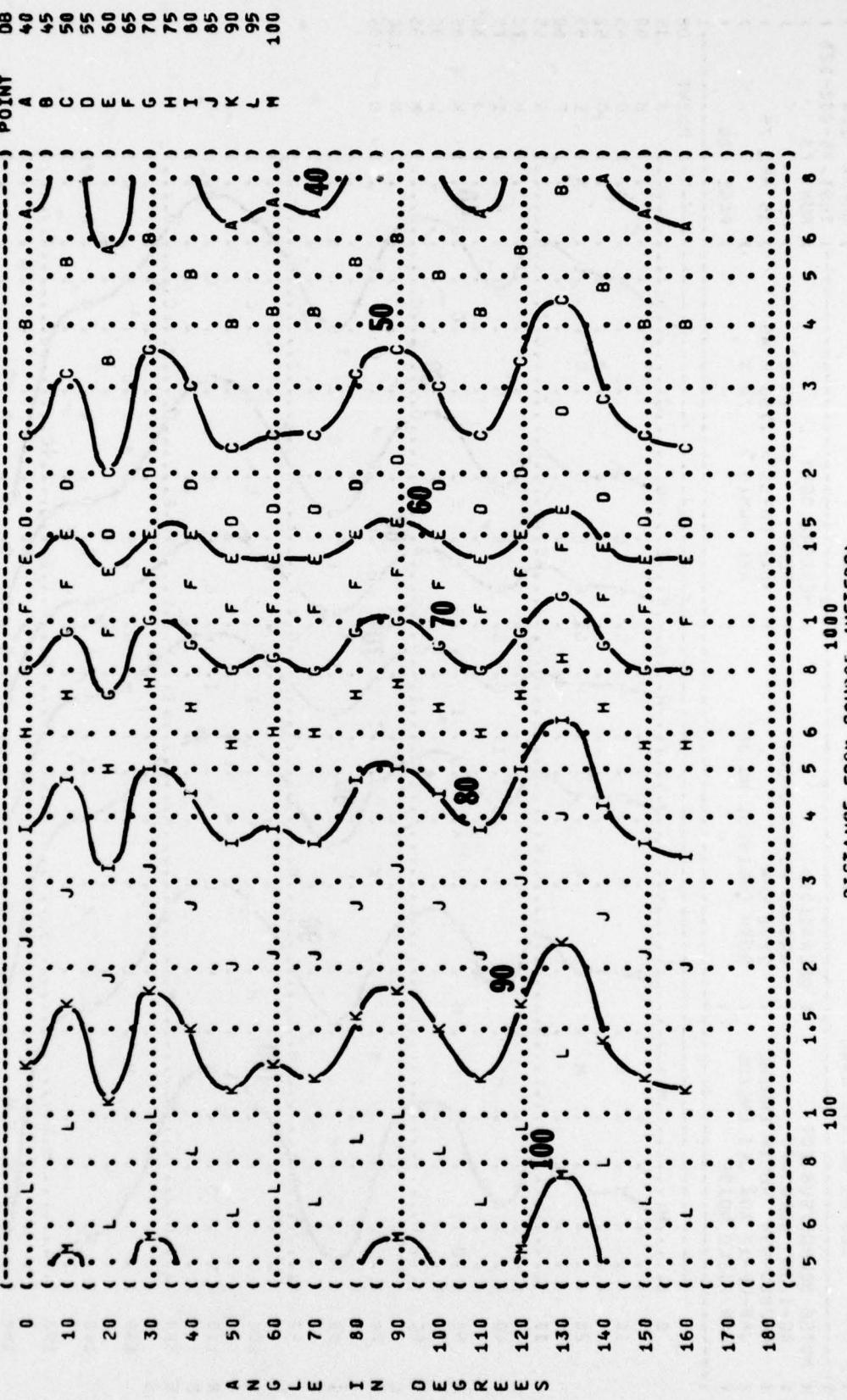
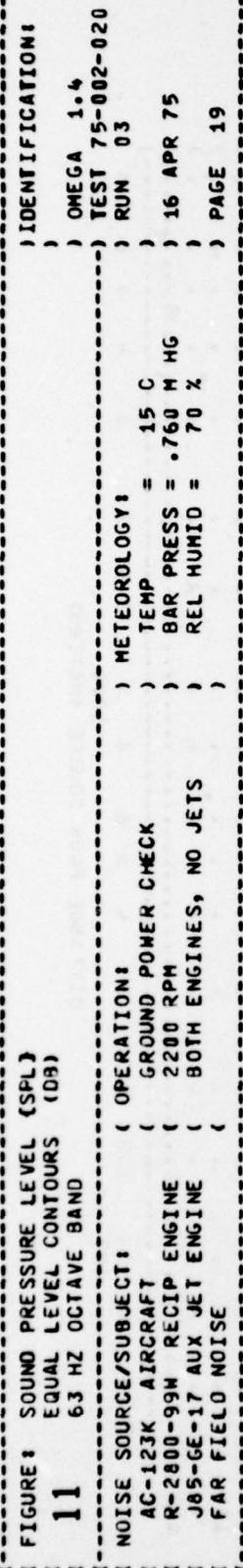


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
125 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
JAS-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATIONS
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-020
RUN 03

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

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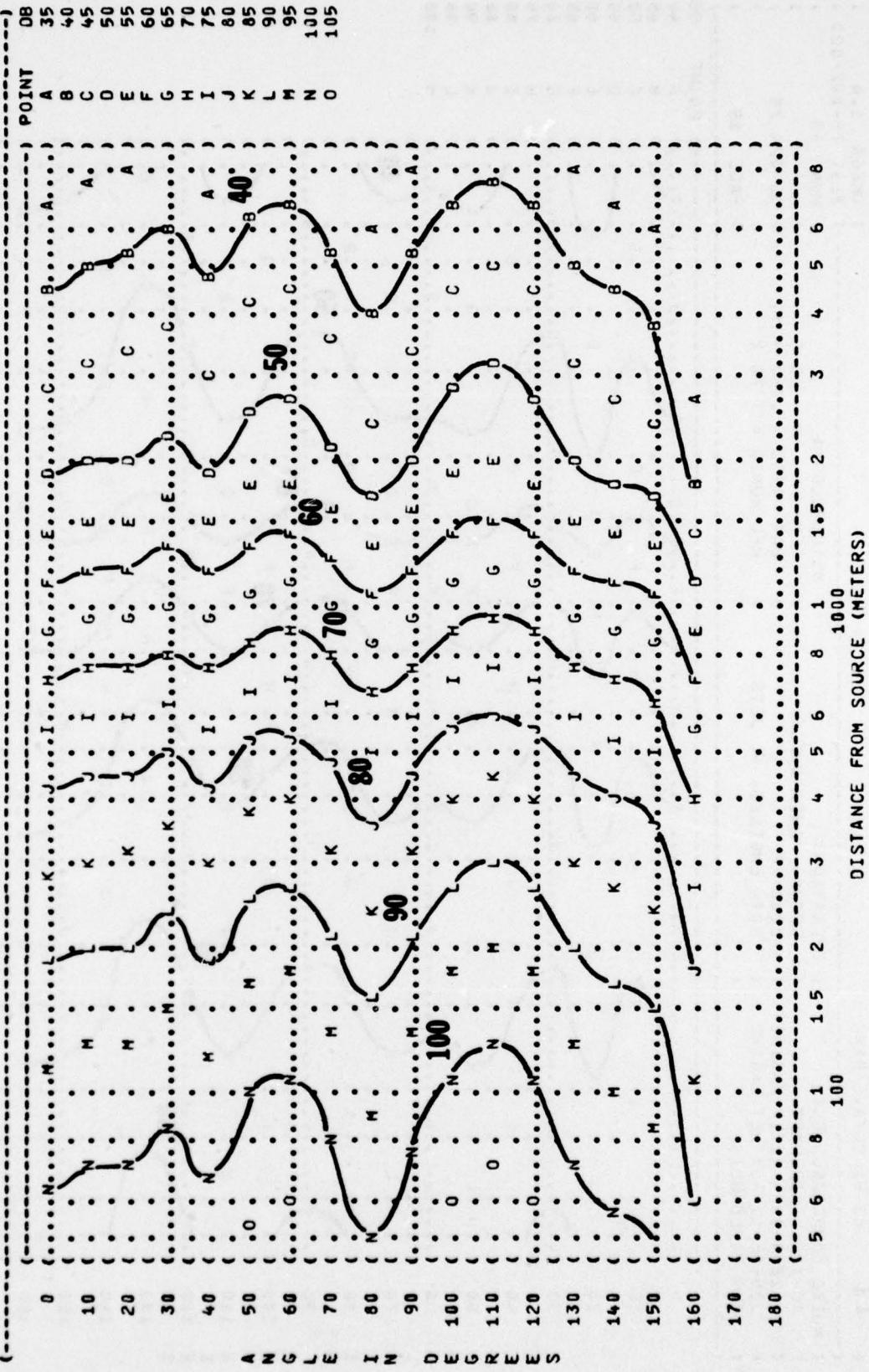


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS
250 Hz OCTAVE BAND

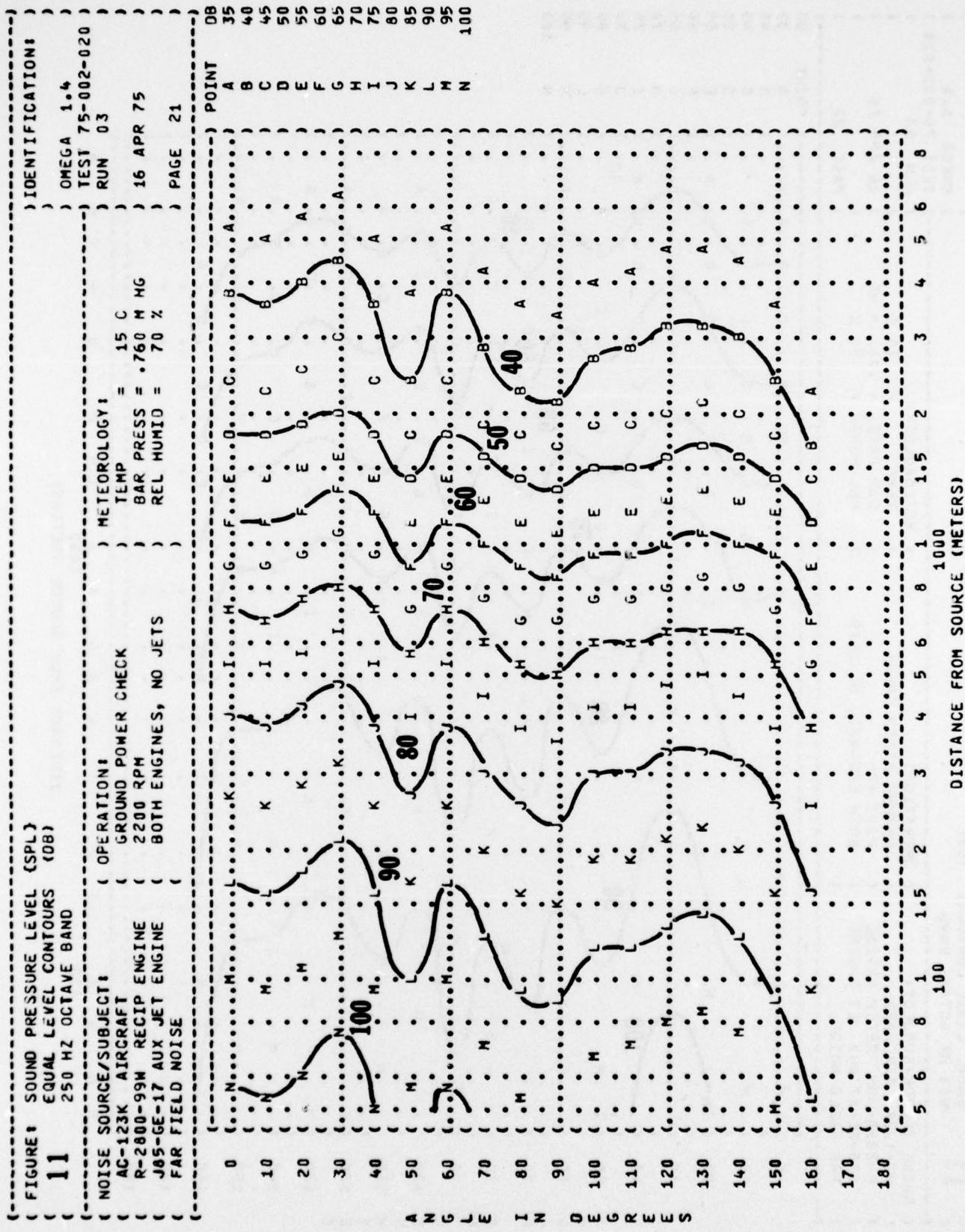


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT	OPERATOR	GRV
AC-123K AIRCRAFT	1	22
R-2800-99W RECIP ENGINE	1	80
J85-GE-17 AUX JET ENGINE	1	
FAR FIELD NOISE	1	

IDENTIFICATIONS

OMEGA 1.⁴
TEST 75-002-020
RUN 03
16 APR 75
PAGE 22

10 9 8 7 6 5 4 3 2 1

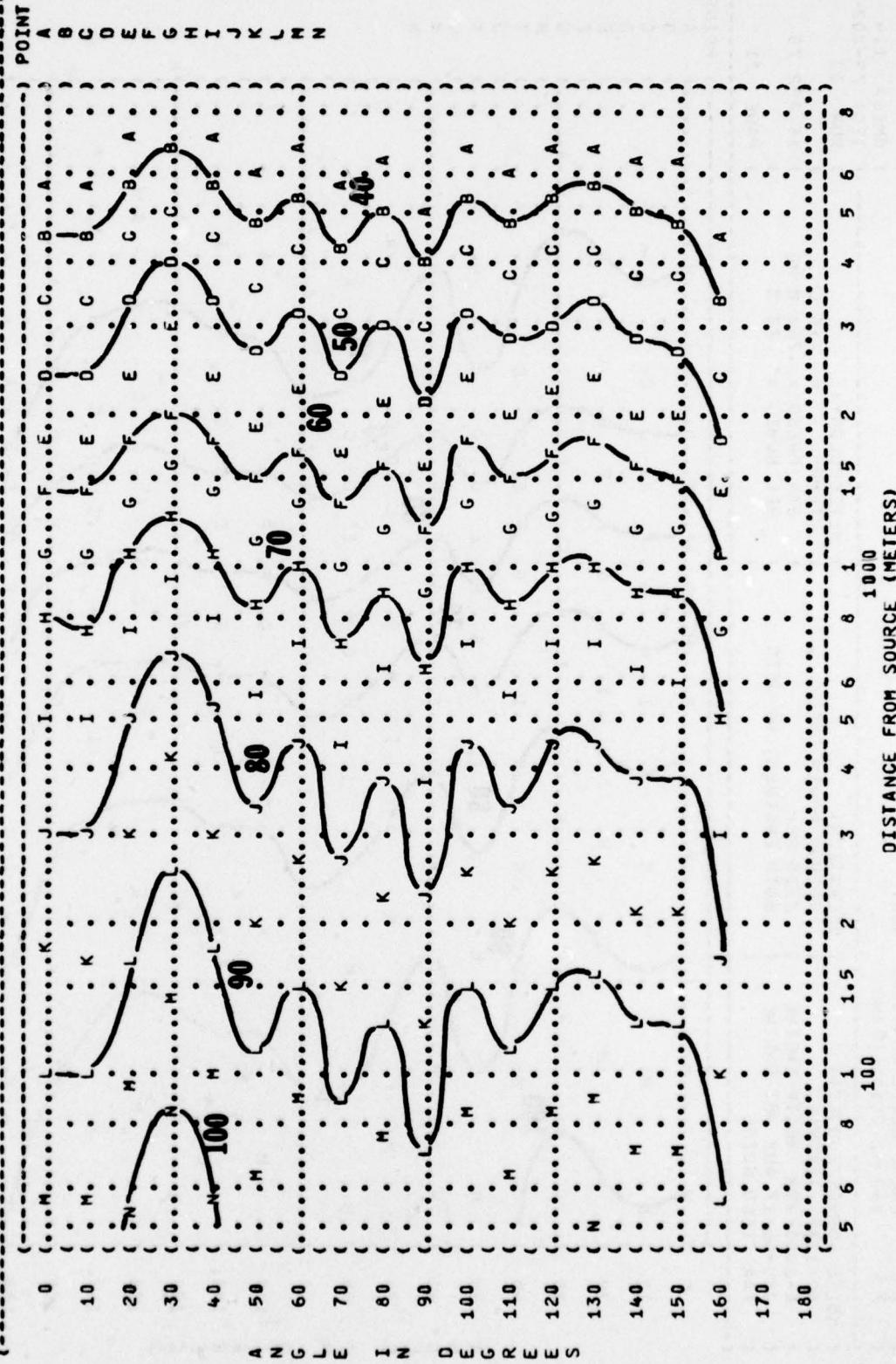


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 Hg
REL HUMID = 70 %

TEST 75-002-020
RUN 03
16 APR 75
PAGE 23

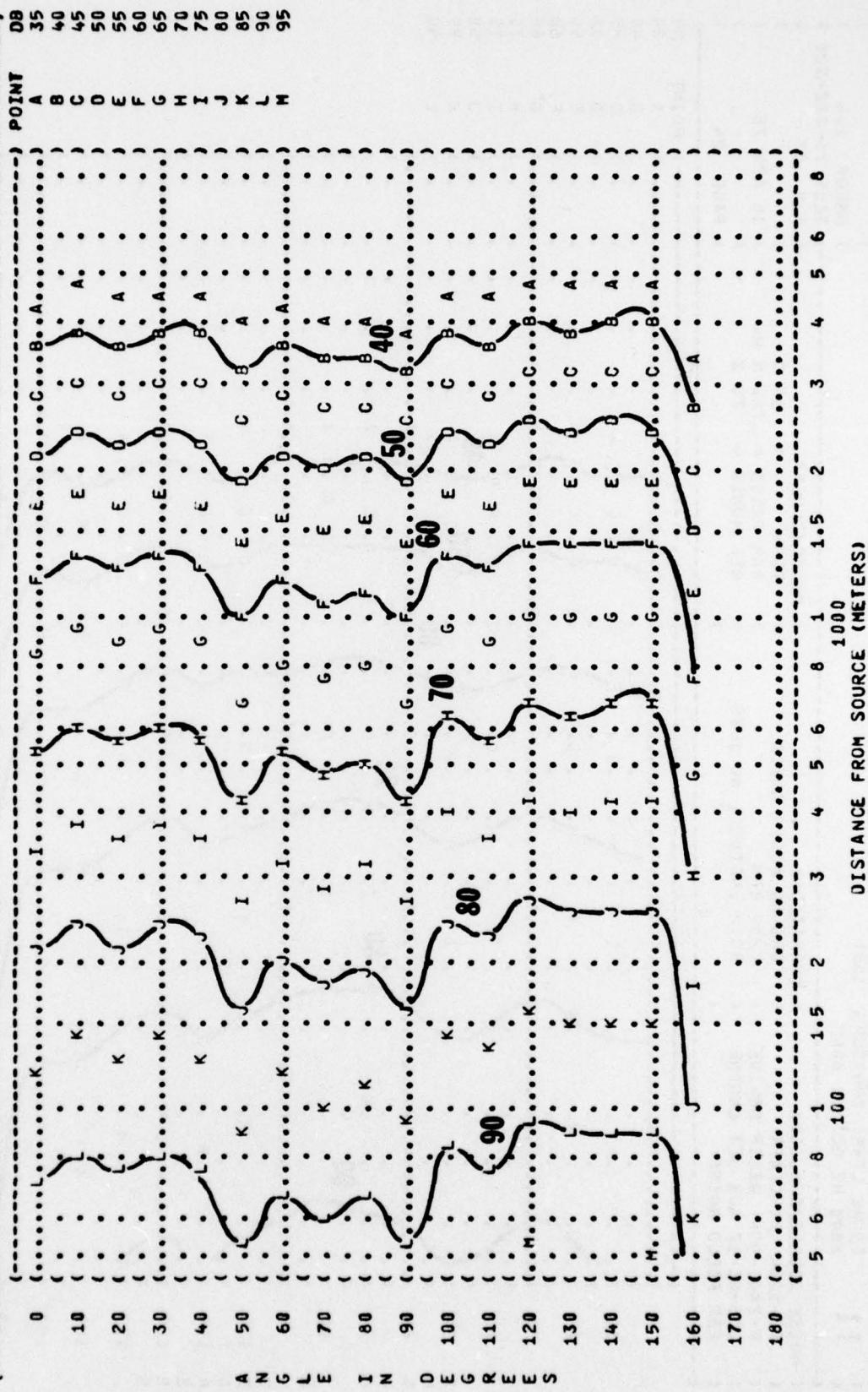


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-020
RUN 03
16 APR 75
PAGE 24

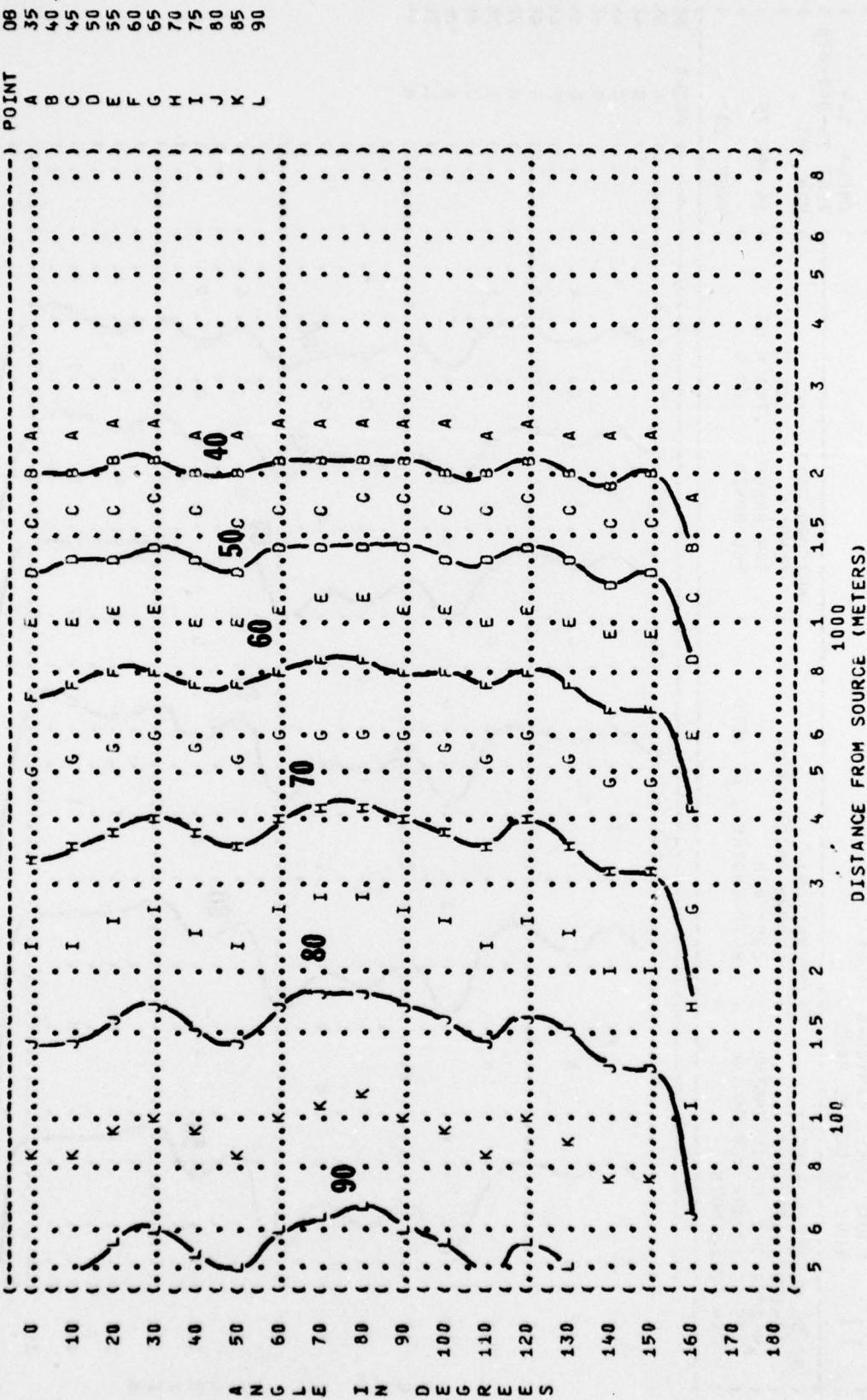


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS
11 4000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 03
OMEGA 1.4
16 APR 75
PAGE 25

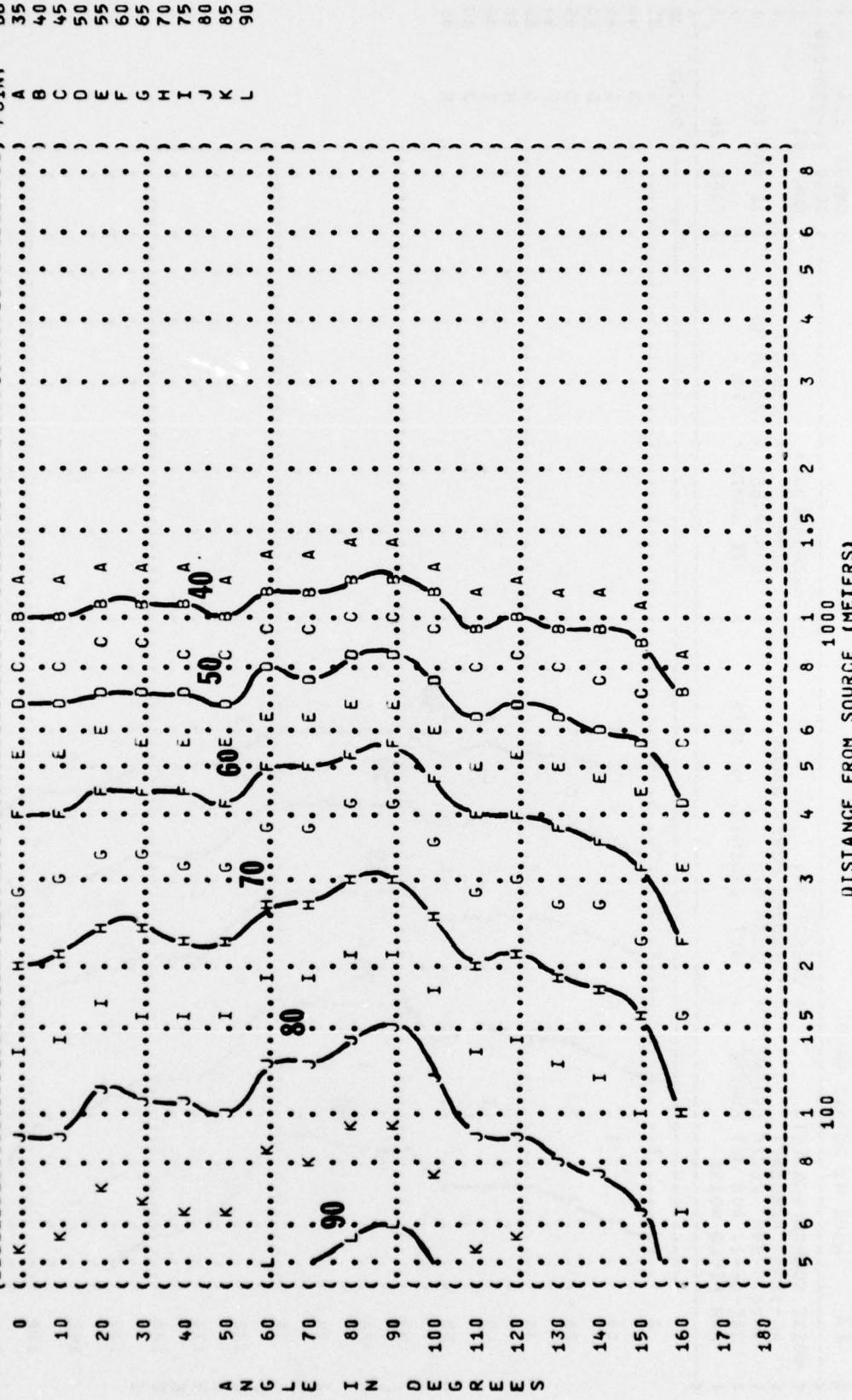


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
6000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
GROUND POWER CHECK
2200 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-020
RUN 03

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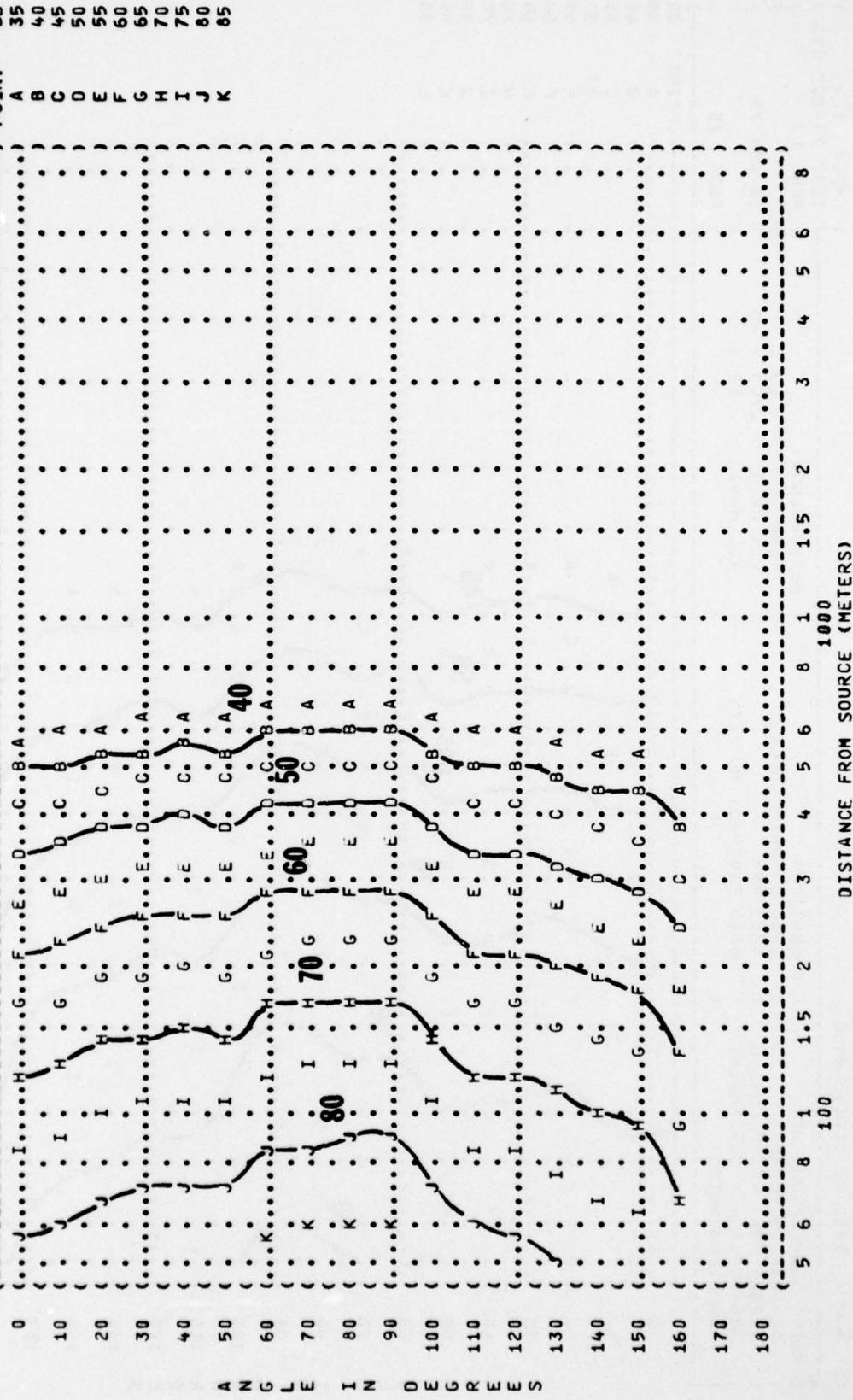


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
31.5 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT: AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION: MAXIMUM RECIP. POWER
2700 RPM
BOTH ENGINES, NO JETS

METEOROLOGY: TEMP = 15 C
BAR PRESS = .760 Hg
REL HUMID = 70 %
TEST 75-002-020
RUN 04
16 APR 75
PAGE 18

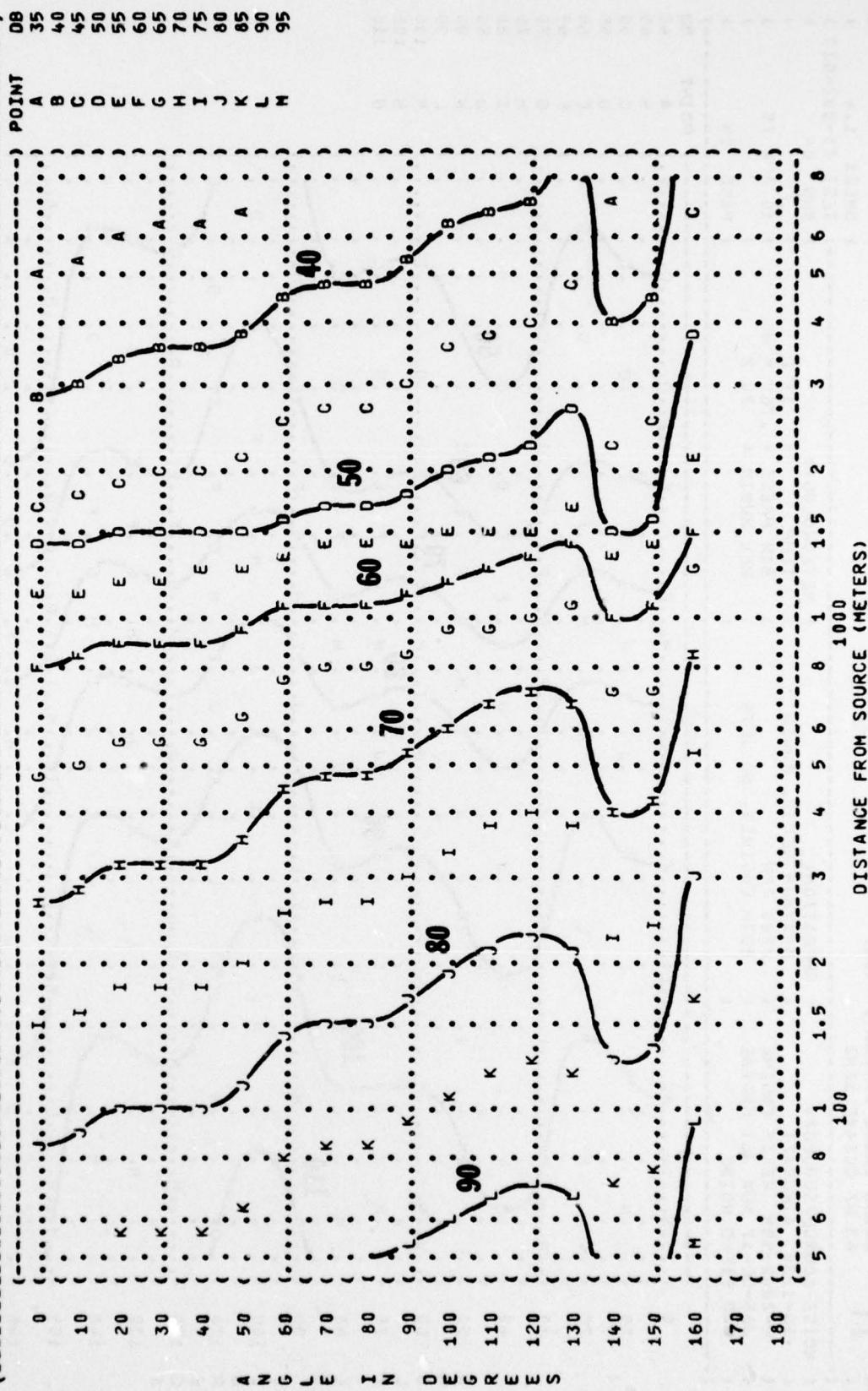


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS (DB)
 63 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

OPERATION:
 MAXIMUM RECIP. POWER
 2700 RPM
 BOTH ENGINES, NO JETS

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = 760 MM HG
 REL HUMID = 70 %

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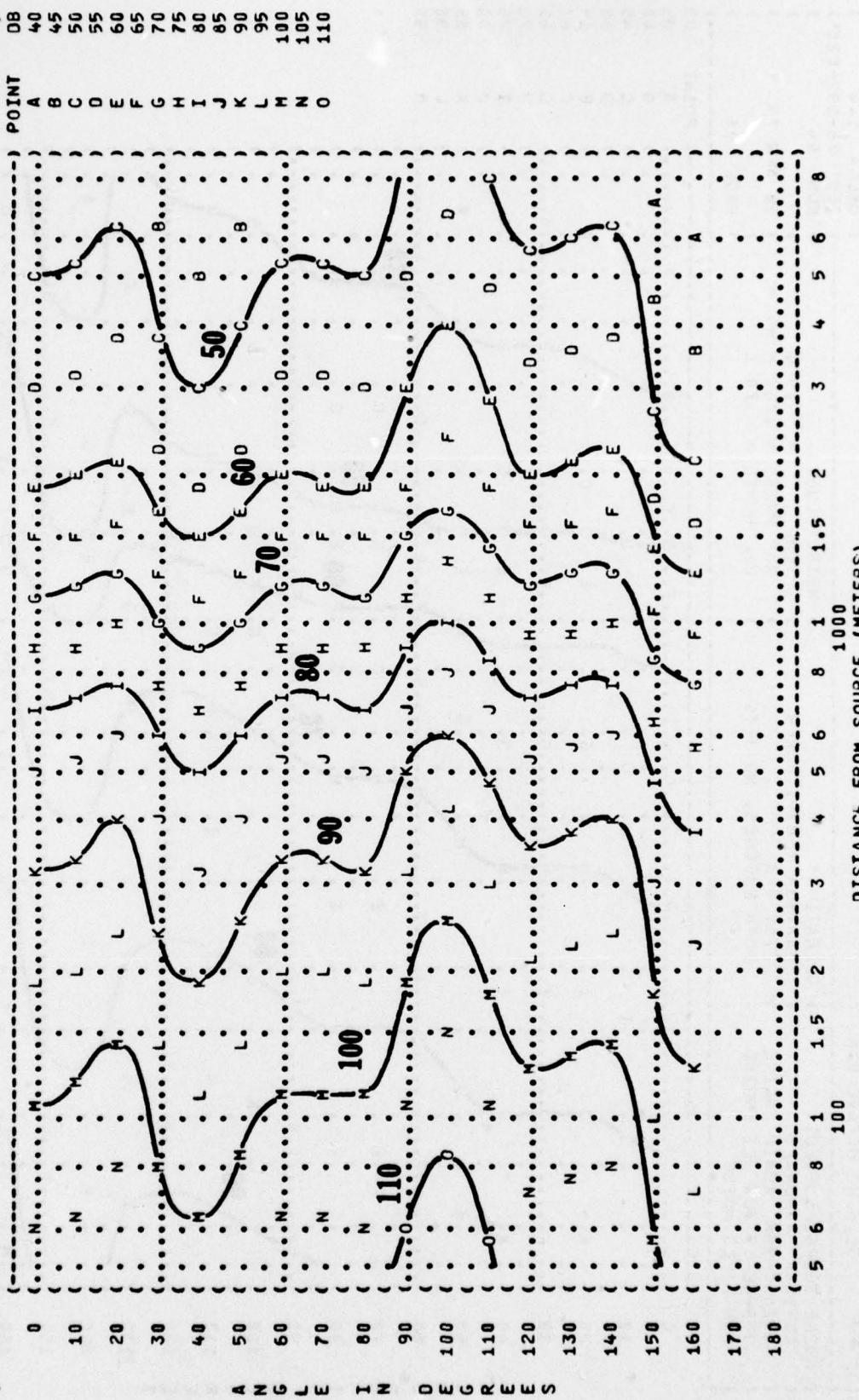


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
 EQUAL LEVEL CONTOURS (DB)
 125 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT: AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

OPERATION:	MAXIMUM RECIP. POWER
(2700 RPM
)	BOTH ENGINES, NO JETS

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = 1016.0 MM HG
 REL HUMID = 70 %

TEST 75-002-020
 RUN 04
 16 APR 75
 PAGE 20

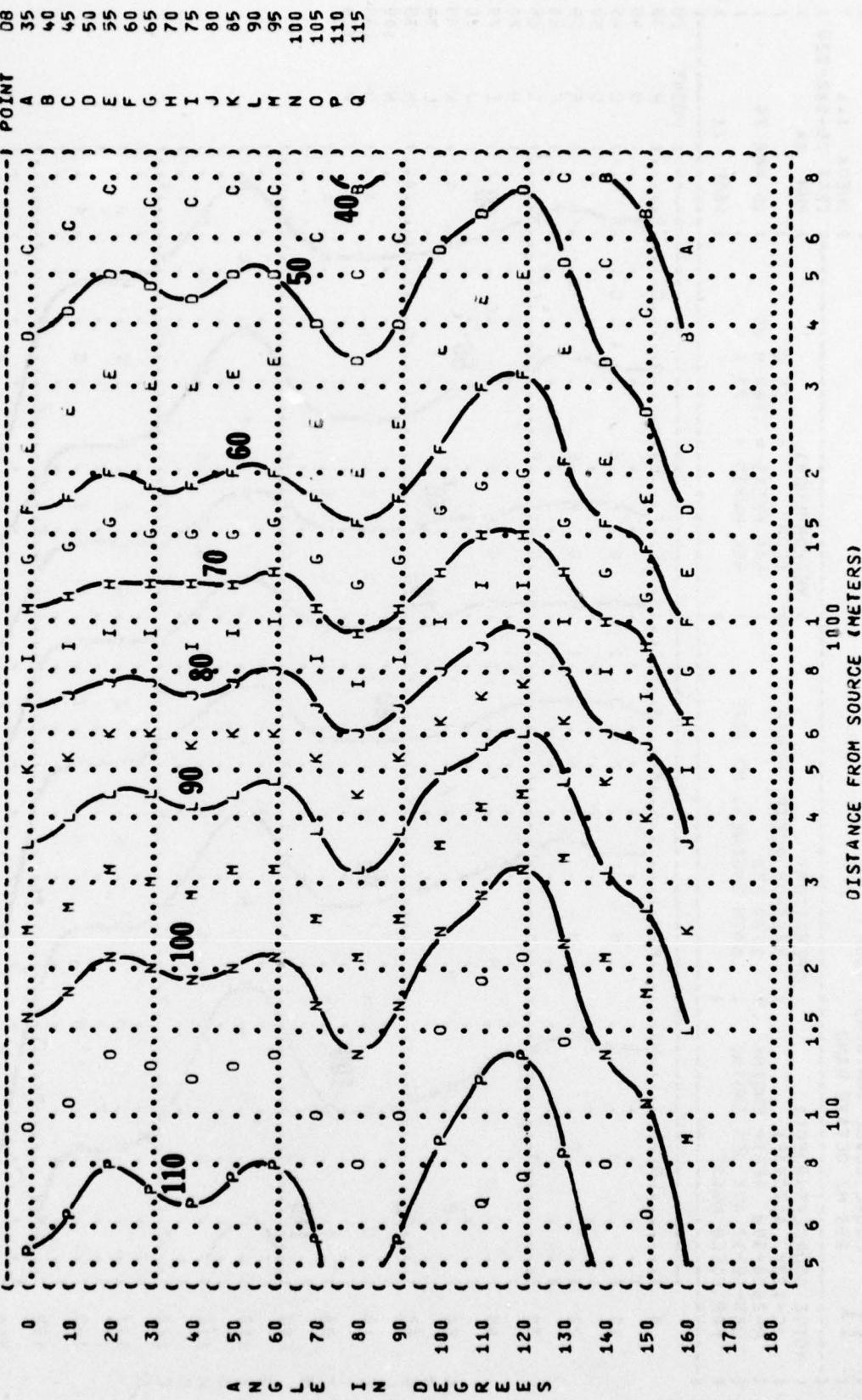


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
250 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM RECIP. POWER
2700 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15°C
BAR PRESS = 760 MM HG
REL HUMID = 70%

TEST 75-002-020
RUN 04
16 APR 75
PAGE 21

IDENTIFICATION:

OMEGA 104

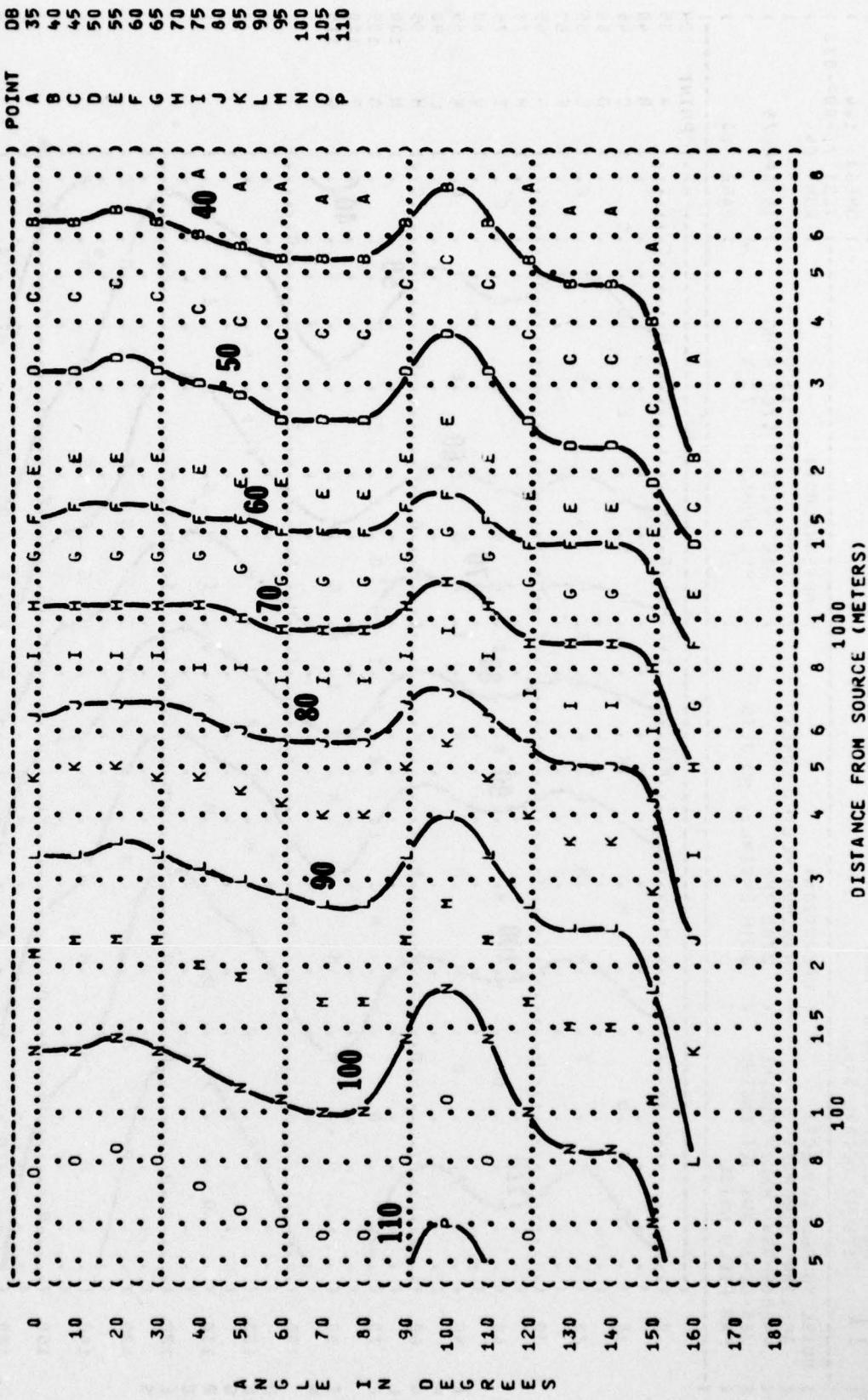


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (0B)
500 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM RECIP. POWER
2700 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-020
RUN 04
PAGE 22

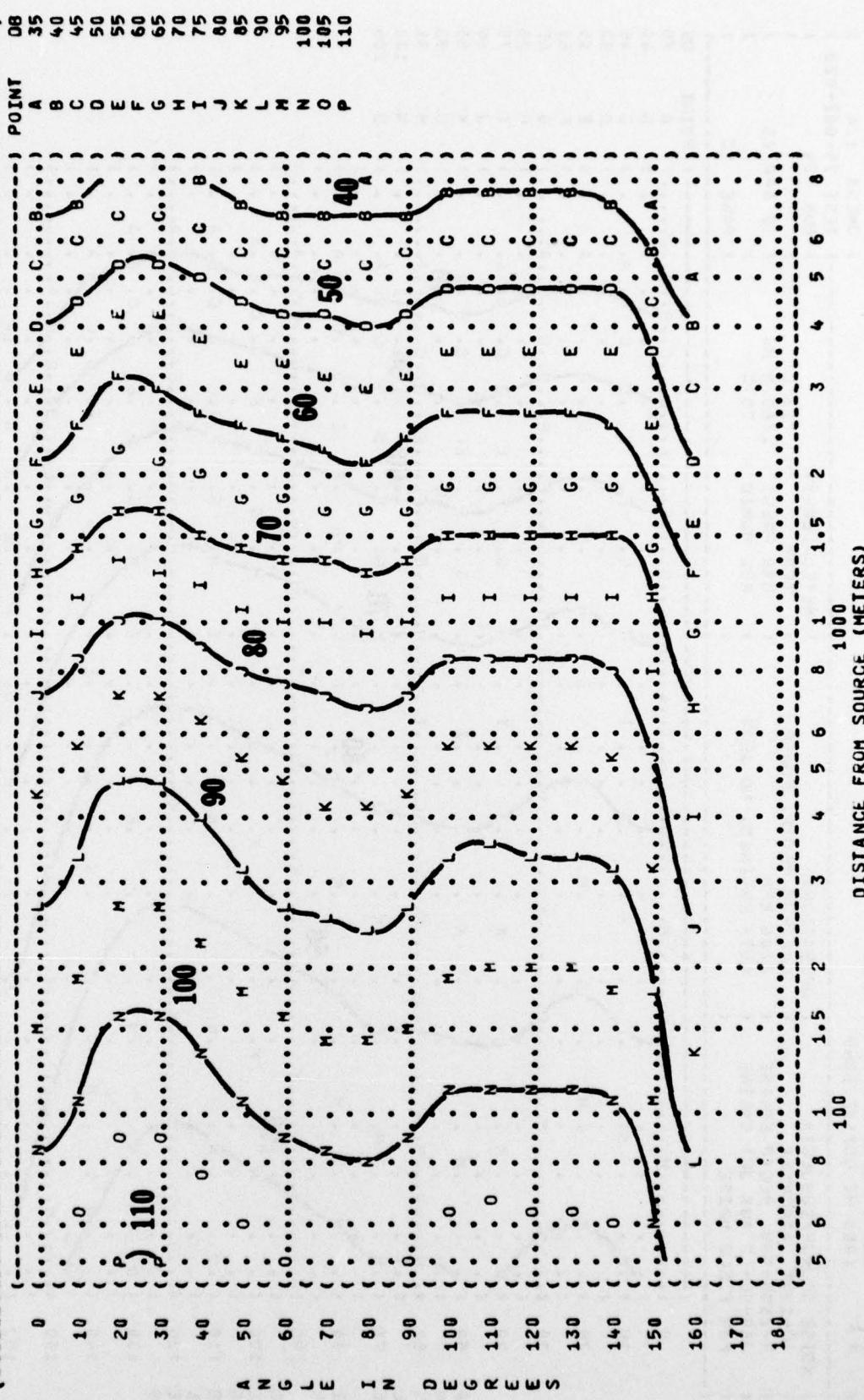


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS
1000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM RECIP. POWER
2700 RPM
BOTH ENGINES, NO JETS

TEST 75-002-020
RUN 04

16 APR 75

PAGE 23

OMEGA 1.4

TEST 75-002-020

RUN 04

16 APR 75

PAGE 23

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 Hg

REL HUMID = 70 %

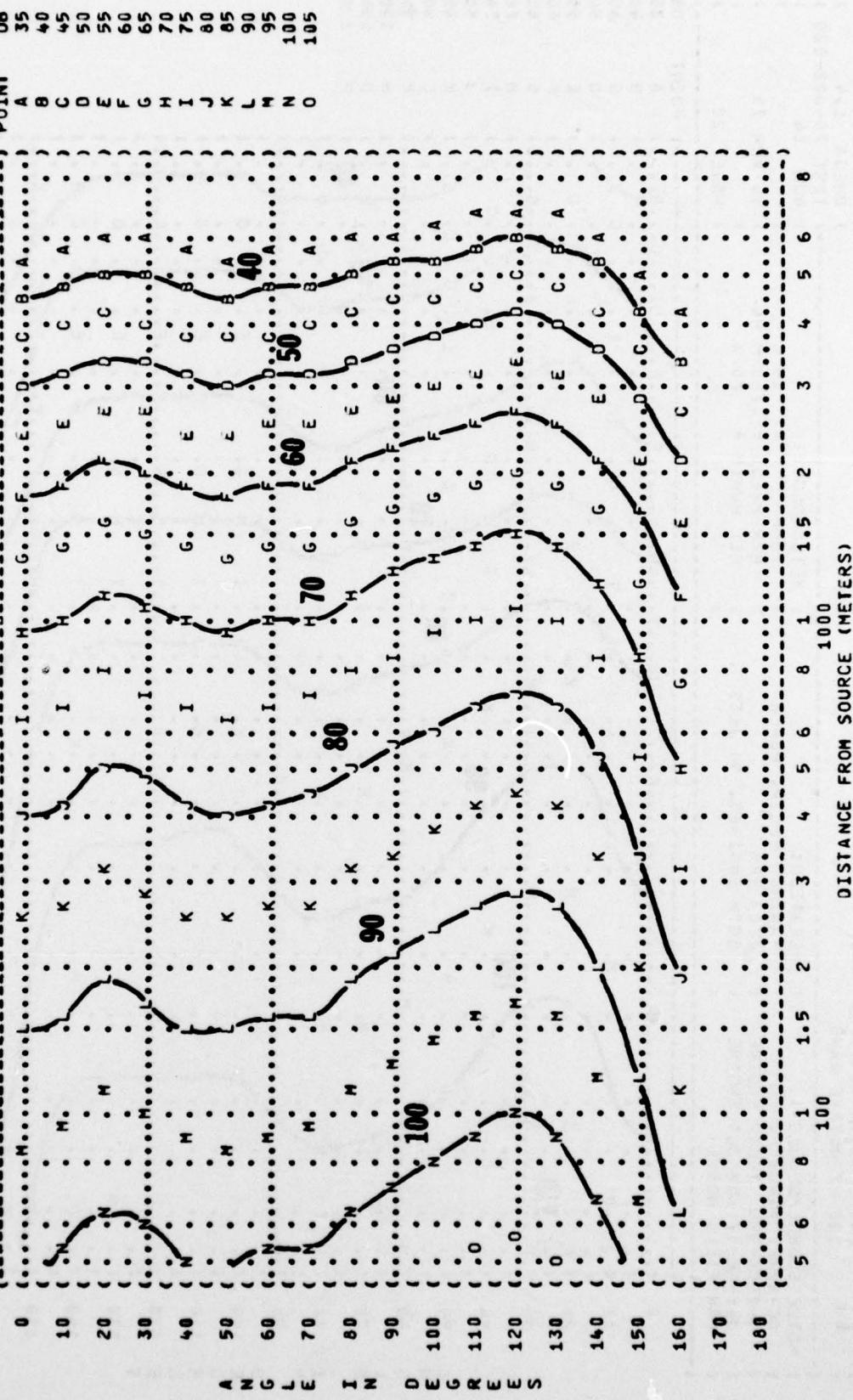


FIGURE: SOUND PRESSURE LEVEL (SPL)
 EQUAL LEVEL CONTOURS (DB)
11 2000 HZ OCTAVE BAND
 NOISE SOURCE/SUBJECT: AC-123K AIRCRAFT
 R-2800-99M RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

) IDENTIFICATION:
)
) OMEGA 1•4
) TEST 75-002-020
) RUN 04
)
) METEOROLOGY:
) TEMP = 15 C
) BAR PRESS = .760 MG
) REL HUMID = 70 %
)
) PAGE 24

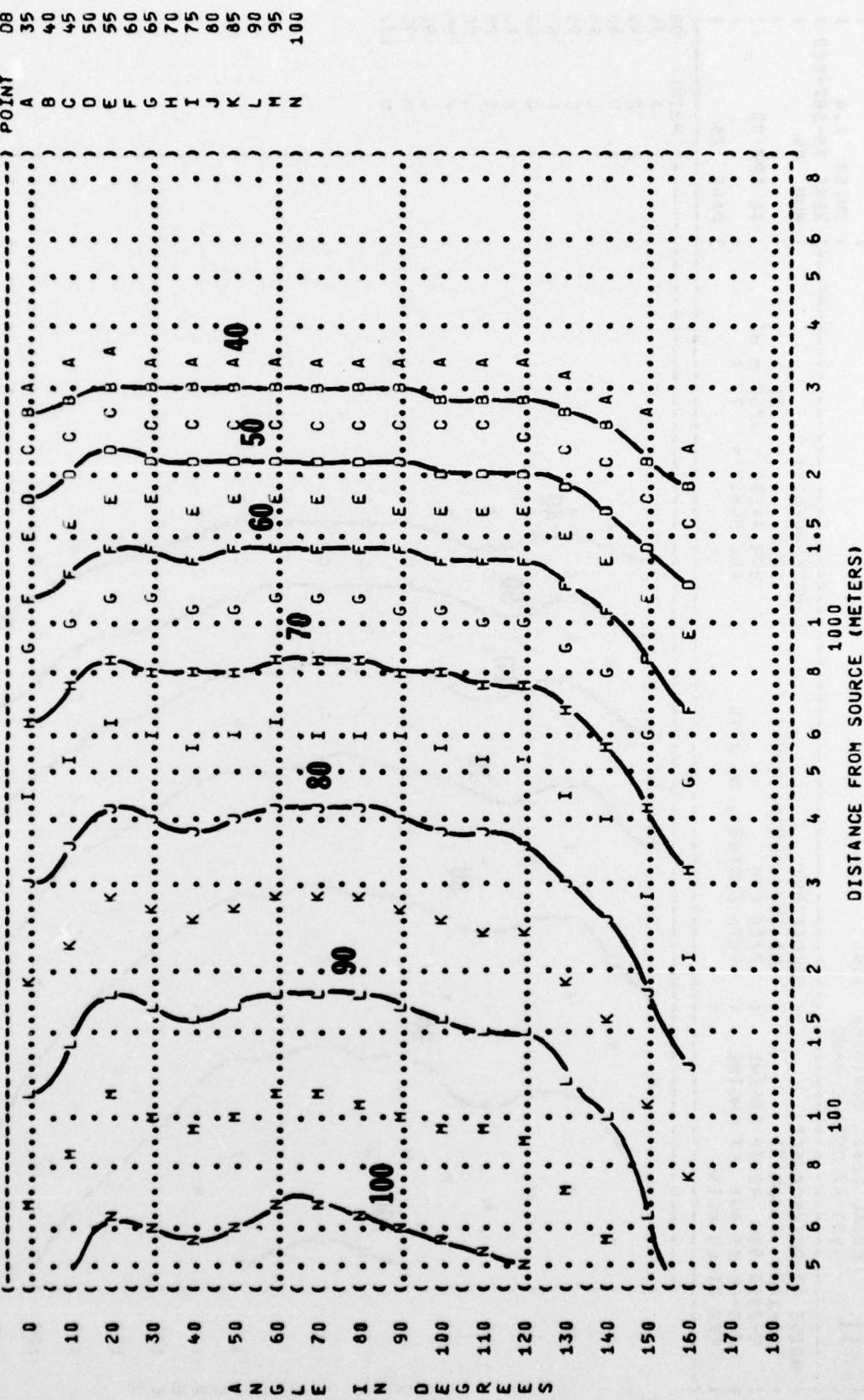


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (CB)
11 4000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
JAS-6E-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM RECIP. POWER
2700 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 04
OMEGA 1.4

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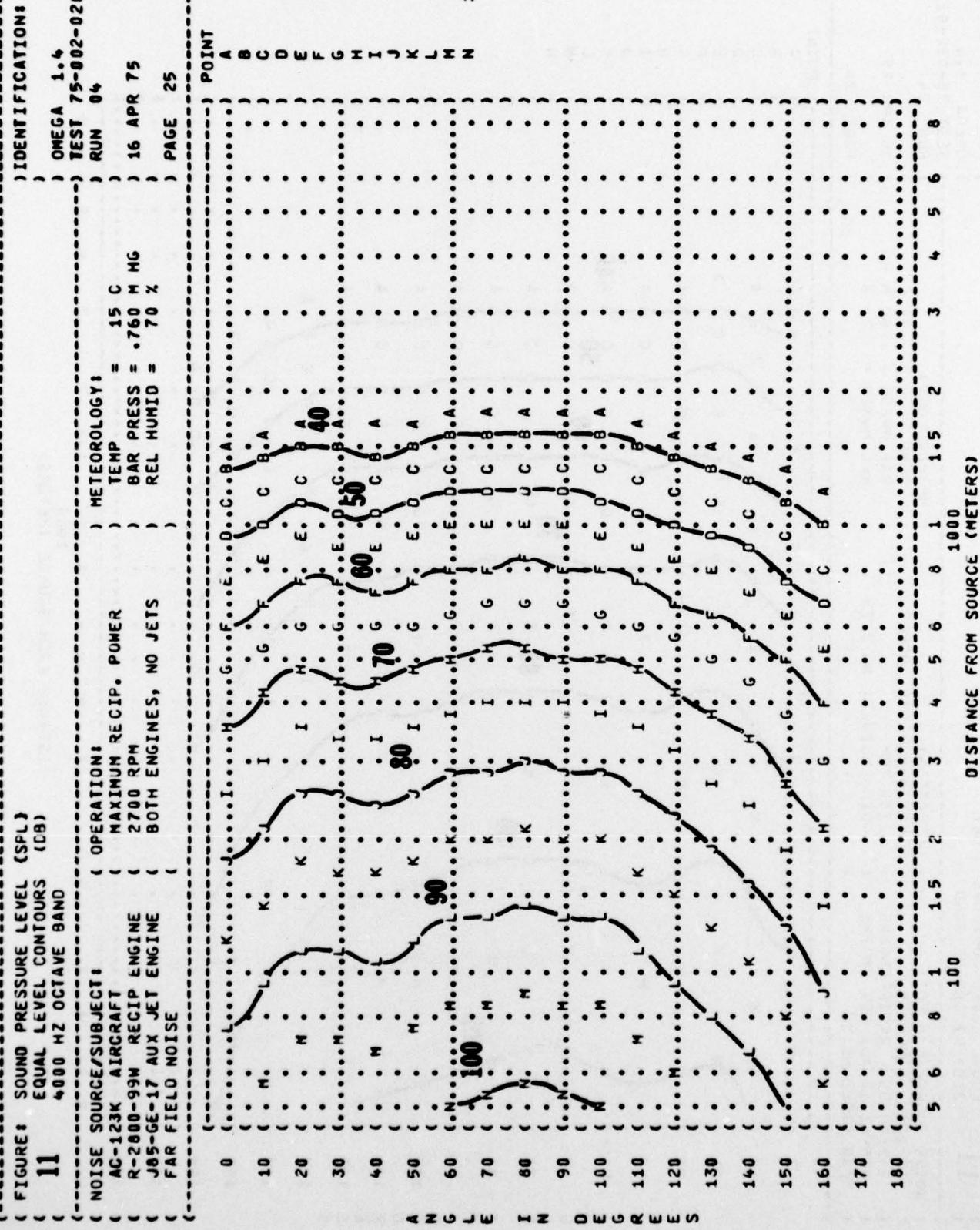


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2900-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATIONS:
MAXIMUM RECIP. POWER
2700 RPM
BOTH ENGINES, NO JETS

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-020
RUN 04

16 APR 75
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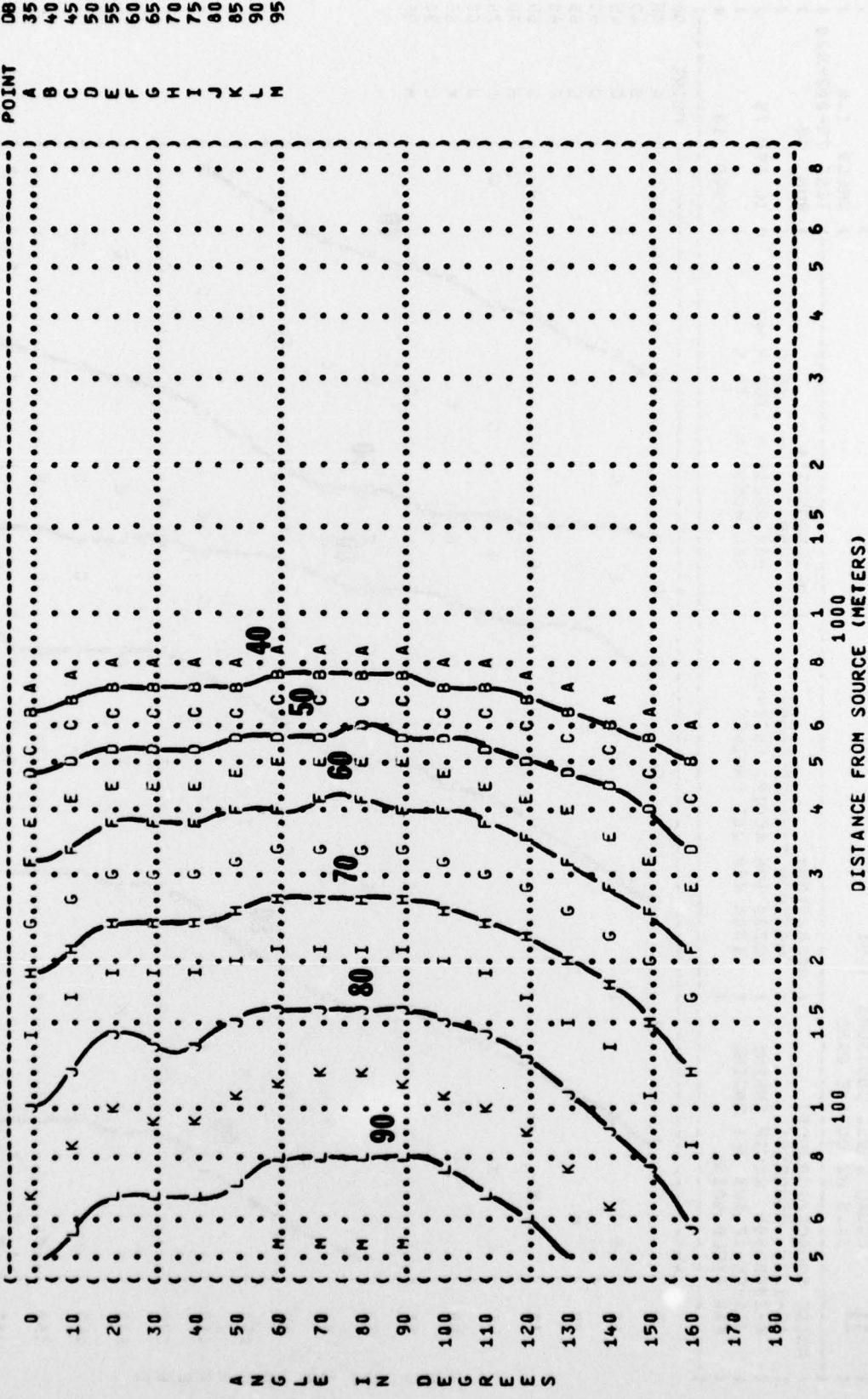


FIGURE 11
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM TAKEOFF POWER
2700 RPM RECIP. ENGINES
100% RPM JET ENGINES

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 N HG
REL HUMID = 70 %

TEST 75-002-020
RUN 05
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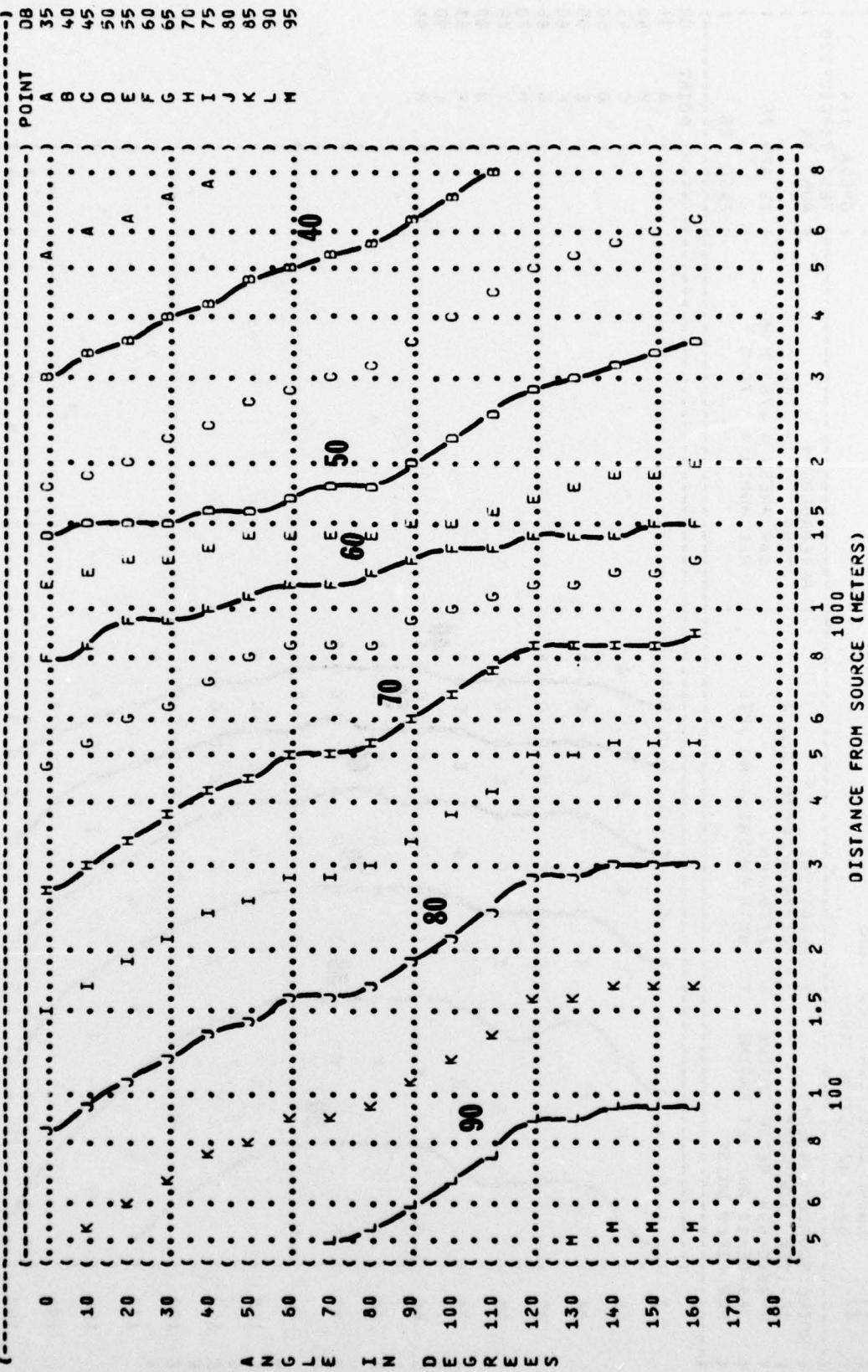


FIGURE 8 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
63 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM TAKEOFF POWER
2700 RPM RECIP. ENGINES
100% RPM JET ENGINES

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 05
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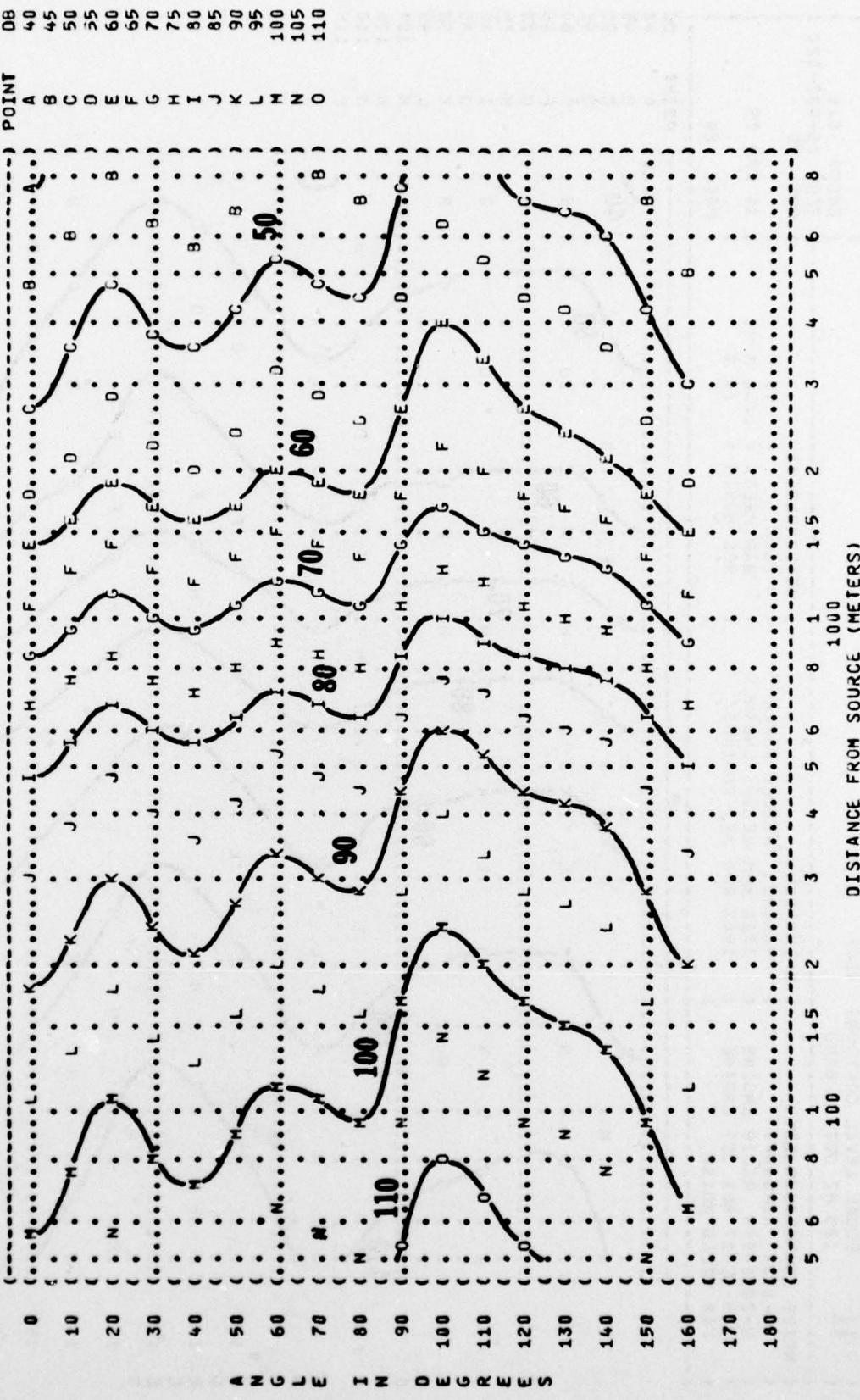


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
125 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
JAS-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM TAKEOFF POWER
2700 RPM RECIP. ENGINES
100% RPM JET ENGINES

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 MM HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-020
RUN 05
16 APR 75

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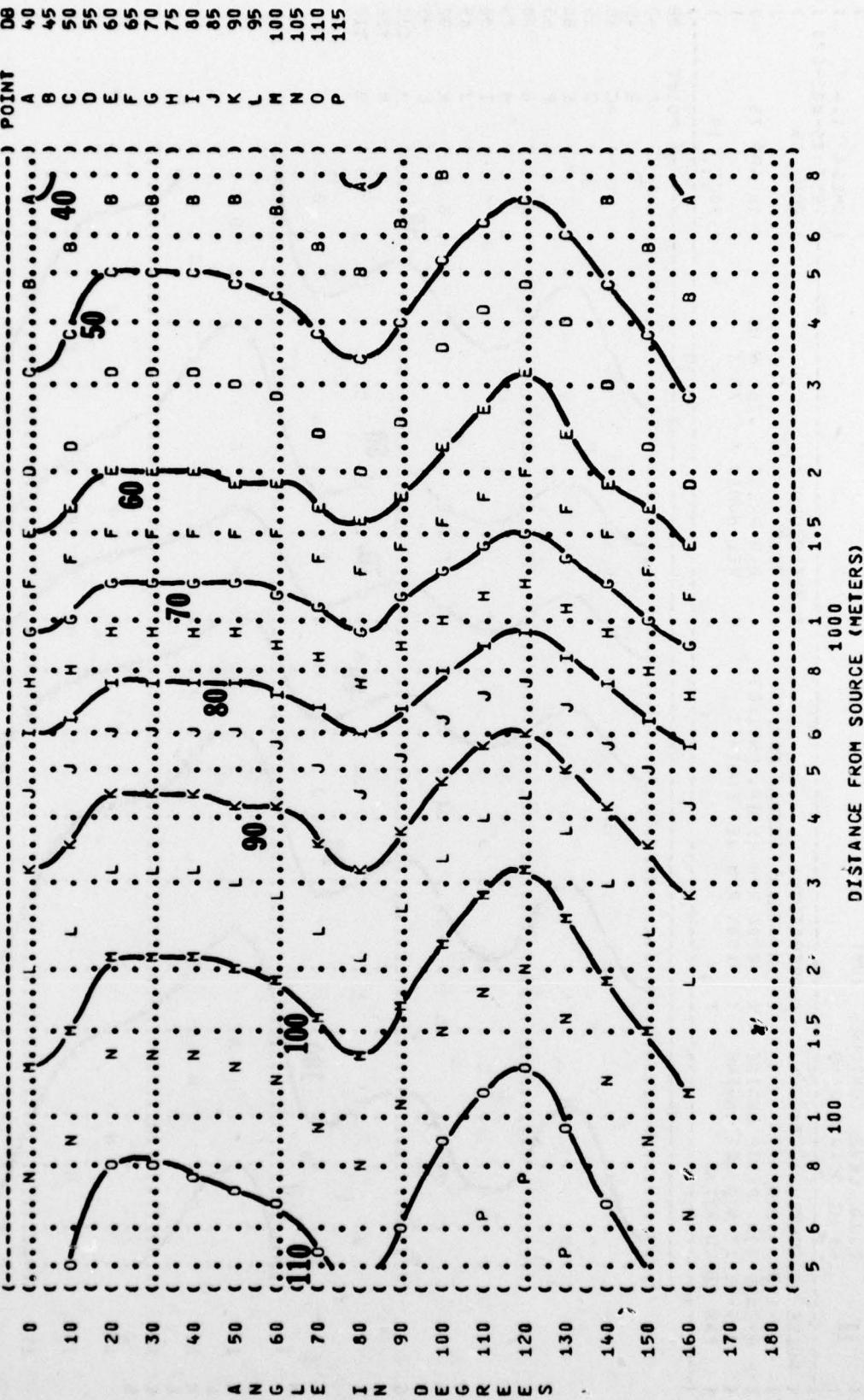


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
250 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP. ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM TAKEOFF POWER
2700 RPM RECIP. ENGINES
1000 RPM JET ENGINES

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-020
RUN 05
16 APR 75
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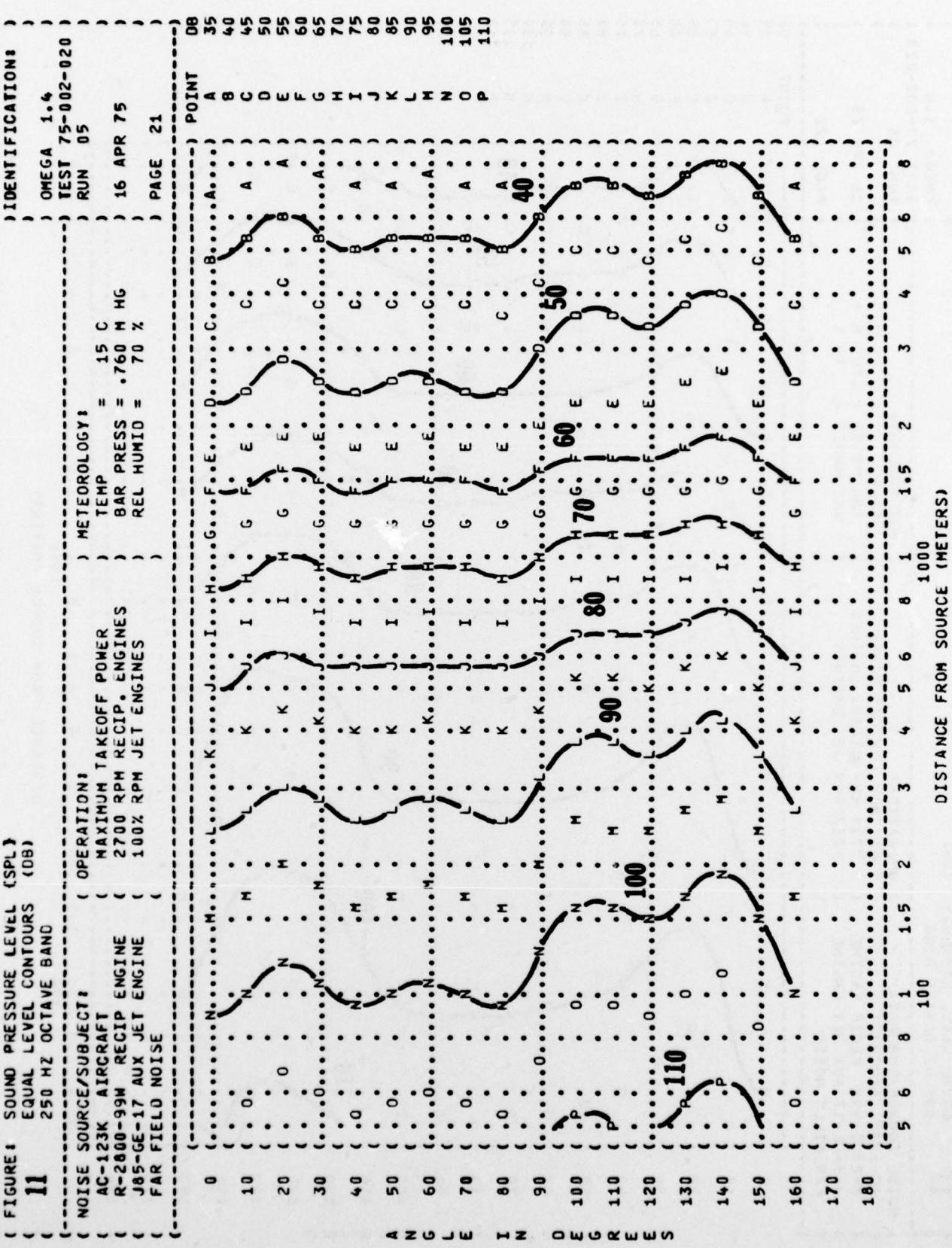


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (dB) 500 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP ENGINE
JB-5-GE-17 AUX RECIP ENGINE
FAR FIELD NOISE

NOISE SOURCE/SUBJECT:	OPERATION:
AC-123K AIRCRAFT	MAXIMUM TAKEOFF POWER
R-2800-99W RECIP ENGINE	2700 RPM RECIP. ENGINES
J85-GE-17 AUX JET ENGINE	100% RPM JET ENGINES

METEOROLOGY: TEMP = 15 C BAR PRESS = .760 HG
 REL HUMID = 70 %

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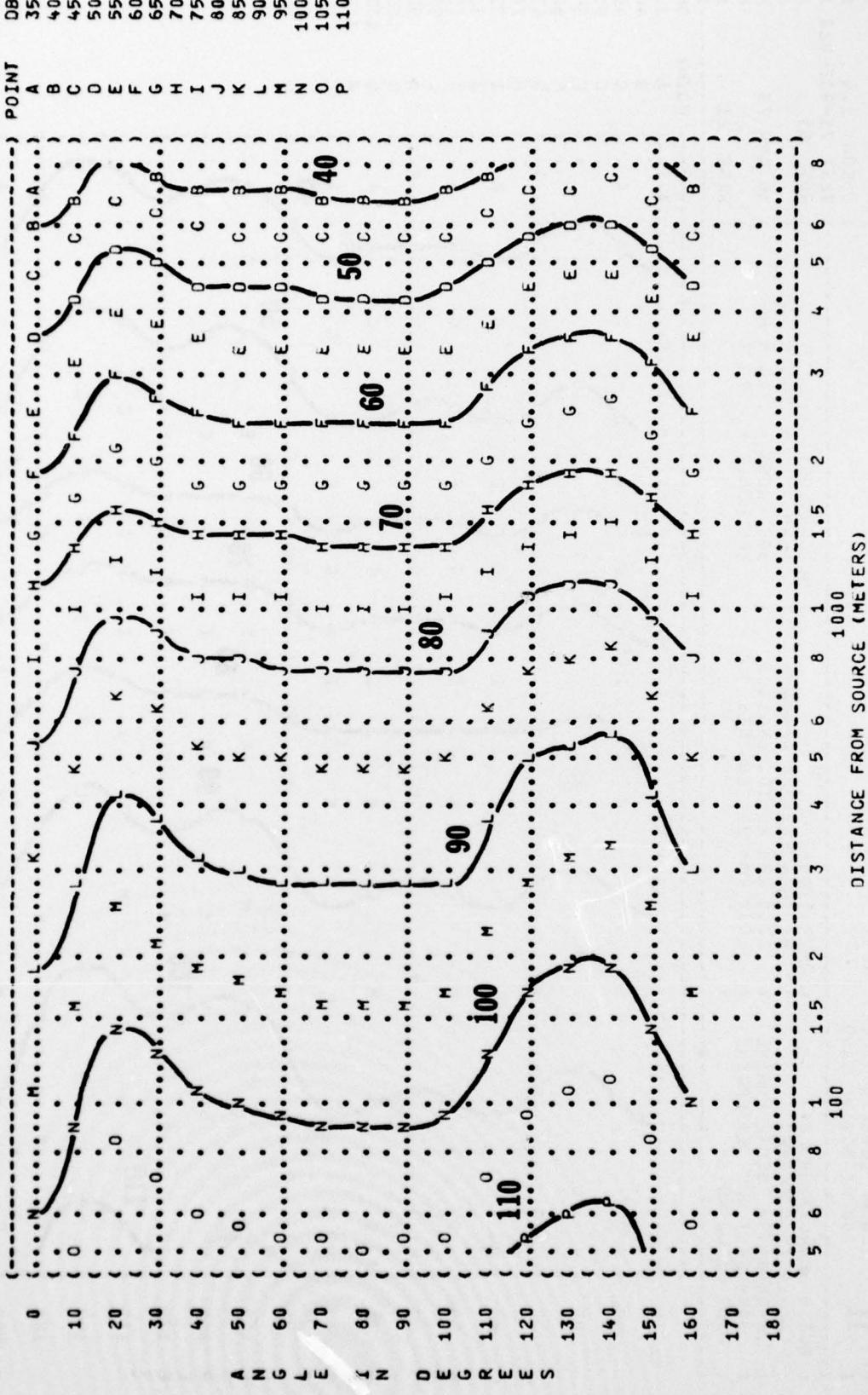


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
1000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-99W RECIP. ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM TAKEOFF POWER
2700 RPM RECIP. ENGINES
1000 RPM JET ENGINES

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

TEST 75-002-020
RUN 05
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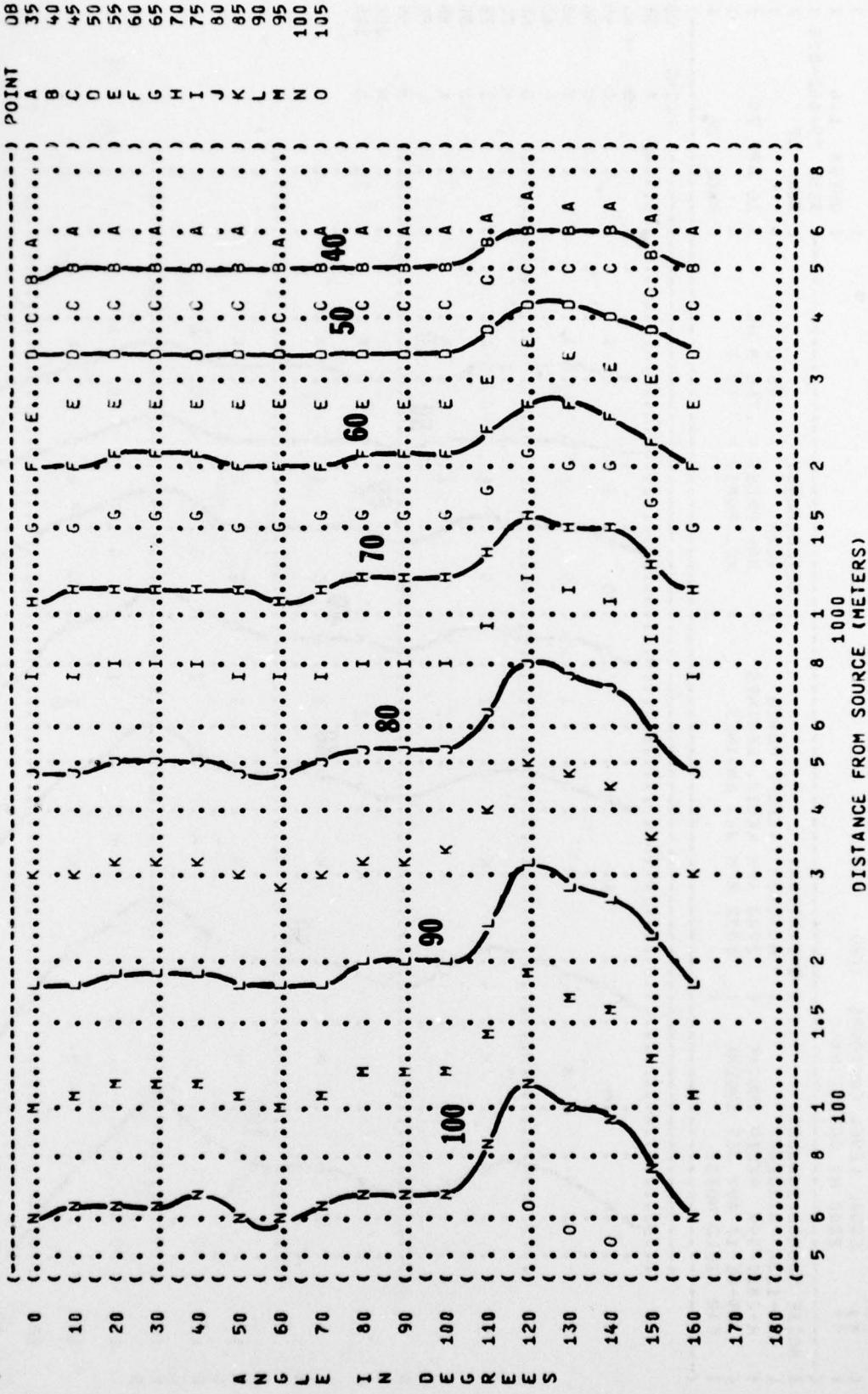


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL OCTAVE BAND
 2000 Hz OCTAVE BAND

OPERATION:
 MAXIMUM TAKEOFF POWER
 2700 RPM RECIP. ENGINES
 100% RPM JET ENGINES

NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J85-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

IDENTIFICATION:
 OMEGA 1⁴
 TEST 75-002-020
 RUN 05
 METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %
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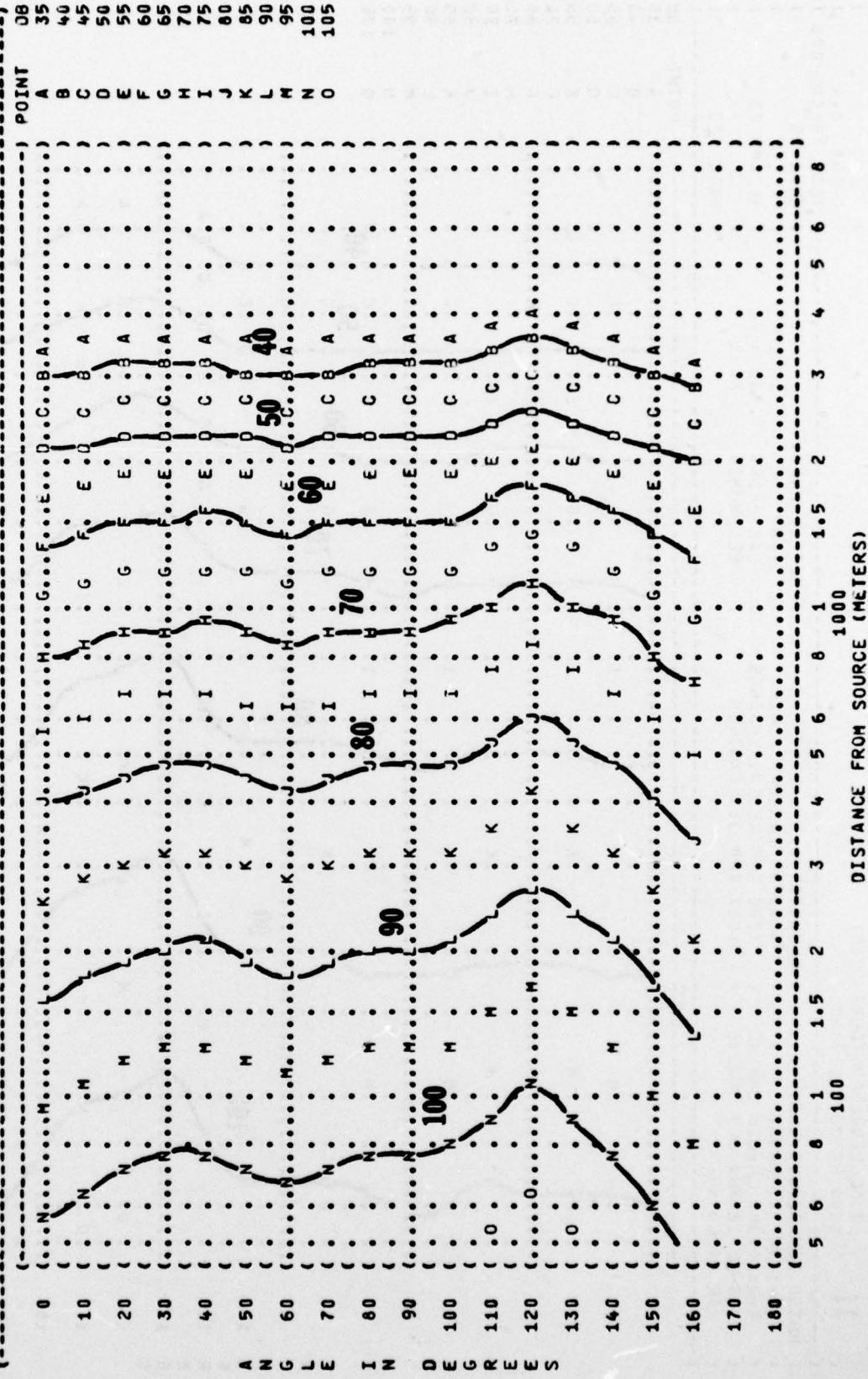


FIGURE: SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS
 4000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 AC-123K AIRCRAFT
 R-2800-99W RECIP ENGINE
 J05-GE-17 AUX JET ENGINE
 FAR FIELD NOISE

OPERATION:
 MAXIMUM TAKEOFF POWER
 2700 RPM RECIP. ENGINES
 100% RPM JET ENGINES

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-020

RUN 05

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METEOROLOGY:

TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

POINT DB

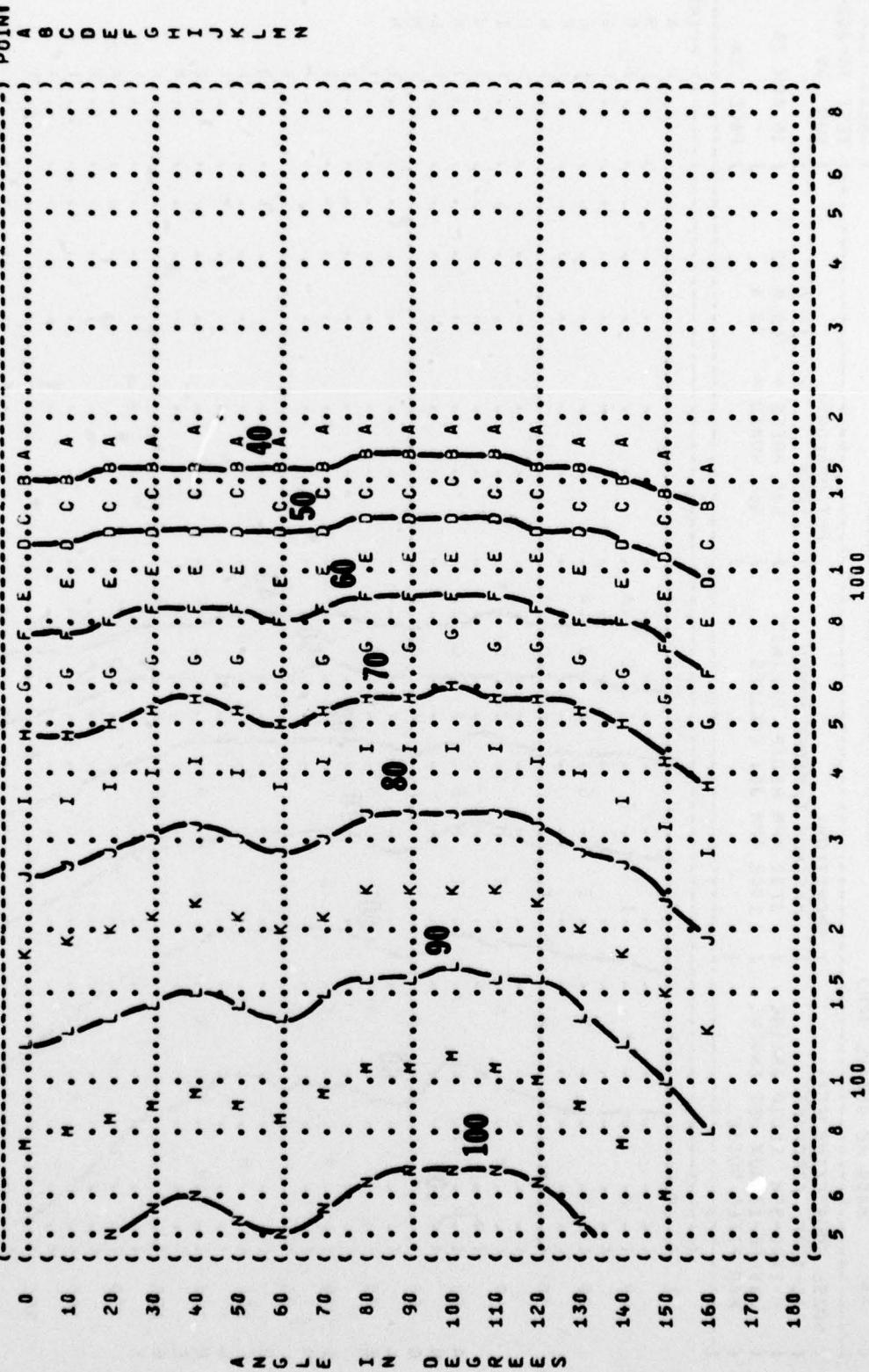


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
11 8000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
AC-123K AIRCRAFT
R-2800-39W RECIP. ENGINE
J85-GE-17 AUX JET ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM TAKEOFF POWER
2700 RPM RECIP. ENGINES
100% RPM JET ENGINES

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 Hg
REL HUMID = 70 %
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IDENTIFICATIONS:
OMEGA 1⁰⁴
TEST 75-002-020
RUN 05

